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## ABSTRACT

Common skin diseases are prevalent in tropical countries because of extreme weather conditions, mediocre hygiene, and lack of adequate treatment of infectious dermatoses. This guide describes the major endemic skin diseases and their signs for the purpose of helping unspecialized health agents train themselves and determine when a patient should be referred to a specialized health unit. The guide also helps increase awareness of individual and collective hygiene, and of clinical actions for major skin diseases. The guide lists the most frequent skin diseases, skin diseases of special interest, and major endemic diseases with dermatological signs. An anthropological approach to dermatology problems is suggested, and treatment guidelines and essential drugs are listed. Technical notes for scabies and for impetigo and impetiginization are included. Finally, a section of guidelines for home identification of diseases explains the health system and factors in the decision to seek health care in the tropics. (AP)

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# CHILDREN IN THE TROPICS

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## SKIN DISEASES IN THE TROPICS

1994 - N° 214-215

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The International Children's Centre was created by the French government in 1949, on the initiative of Professor Robert Debré in particular, following negotiations between France and the United Nations. Its purpose was to furnish those international and national agencies dealing specifically with child care with training facilities and educational and informational tools in the field of child health and development, viewing children within their family and surroundings.

ICC soon turned essentially toward Third World children and devoted its activities to the training and education of personnel with social, educational and administrative responsibilities as well as medical and paramedical workers. The desire for greater efficiency has led it to work increasingly with trainers and to concentrate its efforts on the methodological and educational aspects of mother and child care programmes.

ICC is also engaged in an attempt to further study - and - action on some aspects of the life and health of children and their family, so as to contribute to practical improvement, particularly in the fields of growth, nutrition, planned parenthood, the control of transmissible and nutritional diseases, preschool and school education, the needs of disabled and underprivileged children, etc.

The documentation centre of the ICC has been collecting, processing and circulating invaluable information on children and their environment for the past forty years. In the last decade the centre has also developed the Robert Debré Database (BIRD) ; with its current 110,000 references, it can meet your bibliographic research needs either by correspondence or by visiting the centre's library. Furthermore the ICC also produces the BIRD CD-ROM, updated yearly with the latest database references; it is a user-friendly compact disc operated on any IBM compatible PC equipped with a standard CD-ROM drive. ICC also publishes books, proceedings of symposia and educational documents, as well as comprehensive analyses and bibliographic bulletins.

As for its legal status, the International Children's Centre is a foundation under french law of recognized public utility, administered by an executive board with broad international membership.

# CHILDREN IN THE TROPICS

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REVIEW OF THE INTERNATIONAL CHILDREN'S CENTRE

## SKIN DISEASES IN THE TROPICS

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Dr. ANTOINE MAHÉ  
AND COLLABORATORS

1994 - N° 214-215

# SKIN DISEASES IN THE TROPICS

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## INTRODUCTION

Are dermatological conditions a public health problem in developing countries ?

Tropical dermatology may be approached in two complementary ways ; there is the relatively conventional conception, which is mostly concerned with studying those «major endemic diseases» such as leprosy, treponematoses, filariasis, etc., in which cutaneous symptoms occur. This approach is clearly borne out by the potential seriousness of such conditions. However, it has the disadvantage of misestimating the importance of the more specifically «dermatological» ailments, which are often relegated to the chapter on differential diagnosis, and sometimes completely overlooked. And yet, the vast majority of the dermatological problems encountered by unspecialized health agents today are composed of these «skin diseases», as they are so often referred to in the consultation registers : the term itself clearly reflects the worker's diagnostic inadequacies and lack of training on the subject.

Most of these conditions are not fatal, and up to now have received very little attention from the various public health authorities. We are of the opinion that a category of ailments that ranks fifth among reasons for consulting health centres should not be neglected. This fact is definite evidence of a great demand for care. In our field work experience, we have even seen an epidemic of scabies, in particular, to lead some population groups to place skin diseases at the top of their list of health concerns. Last, the systemic effects of these extremely frequent chronic skin diseases should not be underestimated.

The second approach, then, views tropical dermatology as a field with a specificity of its own, on several counts.

First, there is the high prevalence of common skin diseases. There are a number of causes, including the «extreme» weather conditions (heat, humidity), usually mediocre hygiene, overcrowding, lack of adequate treatment of infectious dermatoses, which spur their dissemination.

Next, for reasons connected with poverty, illiteracy and cultural considerations, treatment must necessarily take the cost/efficiency ratio into account, and include an education-for-health plan.

The fact that some conditions such as leprosy, filariasis and treponematoses have been endemic over the ages, points to the need for specific attention, with integrated care generally being dispensed within national or international programmes.

Last, lesions are quite different in appearance when they occur on dark skin, as opposed to those developing on white skin and which are usually described in handbooks on the subject. Actually, the latter, often-mentioned problem is somewhat exaggerated, in our opinion, since most of the symptomatological nuances - and

we are referring to erythema, in particular - encountered on a white skin may easily be identified on a dark skin, with a little experience. The fact that (hyper- or hypo-) pigmentation disorders are so frequent facilitates the diagnosis of a number of ailments (hypochromatism in leprosy, hyperchromatism in lichen planus).

Health agents insistently demand training in this field ; their requests are justified, given the high frequency of these conditions and even more so since most handbooks are quite inadequate in this respect. The present study deliberately concentrates on the most frequent skin diseases, such as bacterial, fungal and parasite-caused infections. Since there has been no attempt to reach a consensus on care for these widespread skin diseases, what follows is a suggestion for a pragmatic attitude based on our own experience and, hopefully, good common sense.

However, tropical dermatology can by no means be confined to the study of some ten-odd common skin ailments, and it is definitely necessary to discuss some of the «great classics» of childhood dermatology, if only to elucidate some of the little-known peculiarities linked with their occurrence in a tropical climate.

Medical anthropology, so perspicacious in other specialties, provides a worthwhile contribution to care for these conditions, and it corroborates - were there still any need to do so - the importance of these skin diseases for people in general.

As for the major endemic diseases, we have deliberately limited the space devoted to them, so as to avoid overloading this handbook, and above all, to concentrate on describing the main signs which will help the unspecialized health agent, in particular, to orient his/her suspicions toward one of these. It is a fact that these major endemic conditions are far more rare than the other «skin diseases», and encounters with them will probably be few and far between, lost within the mass of more common ailments. Unless the worker has received special training in any one of these endemic diseases because it is particularly prevalent in the area, what must be provided here is, above all, the means of determining when a patient should be referred to a specialized unit.

# THE EPIDEMIOLOGY OF SKIN DISEASES\*

## Statistics from specialized consultations

Statistics on skin diseases in developing countries are collected from three sources : unspecialized health centres, hospital dermatology consultations and surveys of prevalence in the overall population.

The best-documented statistics are those issued by hospitals with specialized consultations in dermatology ; although it is clear that they hardly reflect the situation prevailing throughout a country, these data do yield a relatively accurate indication of the main reasons for attendance of dermatology consultations in developing countries, or at least in urban contexts.

All of these studies show that a large proportion of consultants come in for one of three types of conditions : bacterial infections, fungus infections and parasitic diseases, with scabies representing most of the latter. The main reasons for consulting in a number of African cities are shown, in percentage form, in table 1.

Table 1  
Proportions of consultations for skin diseases in different types of medical units in developing countries

| Type of unit           | Country       | N*        | % of dermatological consultations |             |         |         |        |
|------------------------|---------------|-----------|-----------------------------------|-------------|---------|---------|--------|
|                        |               |           | Total dermato                     | pyodermitis | scabies | mycosis | eczema |
| Specialized unit       | Zambia        | 12,610    | -                                 | 20 %        | 32 %    | 6 %     | 15 %   |
| Specialized unit       | Nigeria       | 7,000     | -                                 | 20 %        | 11 %    | 32 %    | 6 %    |
| Specialized unit       | Rwanda        | 2,819     | -                                 | 4 %         | 30 %    | 13 %    | 9 %    |
| Non-specialized unit** | Mali          | 1,338,690 | 6 %                               | -           | -       | -       | -      |
| Non-specialized unit † | Mali (Bamako) | 1,837     | 10 %                              | -           | -       | -       | -      |
| Rural unit             | Jamaica       | 14,179    | 6 %                               | 11 %        | 30 %    | 12 %    | 7 %    |

\* Number of patients covered by the study.

\*\* Statistical records, Malian health services, 1991 (Epidemiology Department, National Bureau of Public Health).

† Data from Marchoux Institute.

These data from hospitals have their limits, however, owing to the bias introduced by the fact that most people in developing countries find it difficult, if not to say impossible, to consult at a specialized hospital. Tinea infections, for instance, although highly prevalent in the population at large, only motivate a small proportion of consultations. This is partially due to the indifference (relatively justified, in our opinion) of the vast majority of the population with respect to this generally benign, practically non-disabling ailment.

The data provided by unspecialized health centres are a better reflection of the situation prevailing in the day-to-day field context, to some extent (cf. table 1). Skin diseases are generally believed to be one of the main reasons for attendance of these centres : they rank fourth (or fifth, depending on the source) behind fever,

## Statistics from health centres

\* by A. Mahé and A. Prual

respiratory and digestive ailments, but few figures are actually available. The statistical year-book published by the Malian Bureau of Epidemiology attributes 6 % of all reported consultations to skin diseases ; this is exclusive of visits for the major, classical endemic diseases - bejel, leprosy or filariasis - which may involve dermatological signs. In rural parts of Jamaica, diseases of the skin are behind 6 % of all consultations ; in Bamako, a study conducted in several health centres shows that 10 % of consultations are motivated by skin diseases. Here again, infections are the most prevalent form. Although scabies is one of the most frequently encountered dermatoses, it is probably still under-estimated, owing to the great frequency of inadequate diagnosis.

In fact, the most representative findings are those yielded by prevalence studies covering the population at large, a high proportion of which rarely or never attends health centres, be they specialized or not.

### Study of prevalence

Pyodermitis is the most frequently observed skin disease, with as many as 10 to 20 % of children affected. Emphasis is usually placed on certain contributive factors : defective hygiene in a very humid context probably accounts for seasonal variations as well as for contrasts between different countries. Clinically speaking, these cases are often mild, located on the lower limbs, probably due to superinfection of open wounds, and are mostly encountered in children. Adults generally tend to neglect them on themselves or their children. This is unfortunate for several reasons : first of all, there is a definite potential risk of nephrological complications, connected with the possible presence of a nephritogenic subtype of group A beta-haemolytic streptococci. It is our experience, however, that this type of complication is relatively exceptional, and most open wounds do not heal. Furthermore, mild pyodermitis may lead to more severe lesions, with possible systemic repercussions. In addition, it should be remembered that the most frequent skin cancer in subsaharian Africa, spinocellular carcinoma developing on a chronic leg ulcer, originates in these neglected, never-healing wounds.

Ignorance of the most elementary rules of hygiene is often flagrant, as shown by the frequency of infections when ears are pierced for earrings : throughout the village, the operation is performed on one person after another, using the same needle.

Ectoparasitoses rank second among skin diseases. Pediculosis of the scalp is frequent in Africa, contrary to the generally accepted idea that pediculus capitis is unable to adhere to woolly hair. It has a noteworthy preference for girls, probably because the habit of shaving their head protects boys from infestation.

The true public health dermatological priority, however, seems to be scabies. It represents one of the main reasons for visits to health centres, be they specialized or not. Epidemics, and sometimes spectacular ones (with over 30 % of the population of certain Caribbean islands contaminated) have occasionally been recorded. In Mali, scabies seems to be endemic over much of the territory. Most cases are superinfected, and many are active for over a year, since they do not receive any effective care despite pressing demands for treatment. Epidemics of post-streptococcal glomerulonephritis secondary to superinfected scabies have been reported in Trinidad and Zaire. In villages where a considerable proportion of the population is affected, the inhabitants rank scabies, which they clearly identify, first among their health concerns. Overcrowded living conditions, lack of training among health workers and the difficulty of obtaining effective medication account for the perpetuation and extension of this condition. This, in our opinion, justifies the implementation of large-scale programmes aimed at achieving control of this disease.

The other frequently encountered skin diseases are not as serious. Tinea infections, generally benign, are very widespread (about 10 % of the child population), and disappear spontaneously at puberty. Most families are quite indifferent to their presence, and apparently relatively rightly so, in fact, in the light of the prognosis. We would make an exception, however, for favus, which may cause some problems, particularly in the Maghreb but also, occasionally, in subsaharian Africa. Molluscum contagiosum is also quite benign. Dryness of the skin is often encountered in dry climates : the response to this is more or less appropriate. In some families people put shea butter on their skin, others scrub it with a pumice stone, the latter response being a frequent cause of chronic lichenification of the instep in older people. Prurigo and eczema (constitutional or contact-transmitted) are more exceptional, but each of these diseases does actually affect about 1 % of the population.

In conclusion, investigations unanimously report very high figures for the prevalence of skin diseases, and there is a real demand for attention to be paid to these conditions. It is important to note that the vast majority of skin diseases encountered involve a small number of ailments, which are simple to diagnose and may be cured by easily standardized treatment protocols.

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## HYGIENE AND SKIN DISEASES\*

It is widely believed that inadequate hygiene is the only factor behind the occurrence of most cases of skin diseases. The problem is more complex, in fact, since a distinction must be made between individual hygiene and collective hygiene.

### Collective hygiene

As a rule, collective hygiene is mediocre in developing countries : there is no rubbish disposal system, no sewer system, faecal contamination is a real danger, etc. These are decisive factors for the transmission of a great many infectious and parasite-caused diseases, and they also play a role in the occurrence and dissemination of some skin diseases such as pyodermitis.

### Individual hygiene

Individual hygiene is extremely variable from one person to another, everywhere, and the developing countries are no exception here. It is striking, for instance, to see that even in isolated villages, girls and small children are generally cleaner than boys. This situation may have deep-seated underlying causes : for cultural reasons, for instance, boys in certain Malian villages are not allowed to use soap. Conversely, women habitually use cosmetics : shea butter is the most common ingredient, but some inexpensive manufactured products are also utilized. This clearly shows that certain individuals are concerned with hygiene and anxious to have a healthy skin. Inadequate individual hygiene is a factor contributing to the occurrence of pyodermitis : within a given village or homestead, the cleanest children suffer less from this type of disease.

### Family hygiene

Family hygiene also plays a major role, through the cleanliness of the courtyard, for instance. Overcrowded living conditions seem to be decisive in the transmission of scabies (through shared bedlinen and overpopulated homesteads) as well as of pyodermitis, tinea and pediculosis. Exchanges between village communities are conducive to the dissemination of epidemic diseases (scabies).

### Behaviour

These facts about hygiene should be emphasized, since they yield promise that a degree of control of skin diseases may be achieved through interventions aimed at individual and family behaviour, which are perhaps simpler to implement than those aimed at community factors since the latter are quite dependent on economic and cultural determinants, and apparently cannot easily be modified. They also point to some foreseeable difficulties with respect to treatment, such as the collective treatment of a scabies epidemic.

Along with the question of hygiene, more should be understood about spontaneous home care for various skin diseases. There is generally little recourse to health centres, as we know, whereas self-medication, using dubiously effective remedies, be they traditional substances of plant or animal origin or manufactured products, is the most frequent attitude. Use of antibiotic powders

\* by A. Mahé and  
A. Prual

removed from their capsules or bottles is widespread, and illusory, in cases where application of a similarly priced antiseptic would be effective. Some truly aggressive substances (such as used motor oil) are occasionally utilized. This indicates a definite, albeit unfortunately misguided, will to treat skin diseases : here too, basic education would probably be both welcomed and beneficial.

## THE MOST FREQUENT SKIN DISEASES\*

Five groups of ailments alone represent 90 % of the dermatological conditions encountered in developing countries. These are pyodermitis, ectoparasitoses (scabies and pediculosis of the scalp), dermatophytes, viral infections of the skin (molluscum contagiosum and warts), and the different forms of eczema. Some borderline skin conditions, which constitute quasi-physiological responses to extreme weather, will also be discussed at the end of this chapter.

### PYODERMITIS

The term «pyodermitis» is rather vague, since it covers ailments as varied as impetigo and its deeper variety, ecthyma, infectious conditions located on and around the hair (boils, folliculitis), infectious cellulitis, suppuration and superinfection of other skin diseases (most often through a sort of impetiginization).

#### Impetigo

Characteristically, the course of impetigo (cf. picture 6) is divided into two phases : bullous, at first, with the development of soft, superficial, rapidly ruptured bullae containing clear or cloudy fluid ; secondarily, characteristic meliceric («honey-coloured») crusts develop on the locations of the bullae, recognizable by their perfectly round shape.

There are two forms of impetigo : primary, epidemic impetigo, tending to affect the face, especially around the nose and mouth, and impetiginization, which is the superinfection of some other skin disease (and of scabies in particular). In practice, while the clinical diagnosis of impetigo is usually obvious, it is important to identify it in the case of bullous lesions, and to systematically look for an underlying skin disease.

#### Ecthyma

Ecthyma is the ulcerating form of impetigo. It is seen as a shallow ulcer with a sharp rim of induration and a sanious bottom, often covered by a crust, and located on the lower limbs (cf. picture 7).

Alongside of these clearly defined types of pyodermitis, there is a majority of infectious lesions represented by neglected, superinfected open wounds, often located on the lower limbs. The destructive effects of certain kinds of pyodermitis («tropical pyodermitis») may be extremely impressive in undernourished children.

#### Bacteriological aspects

Bacteriologically speaking, impetigo may be caused by streptococci or staphylococci or, usually, a combination of the two. Clinically, there is no reliable way of determining the type of germ involved. There is a well-documented risk of acute glomerulonephritis in streptococcal forms caused by certain nephritogenic strains of group A beta-haemolytic streptococci. When impetigo is secondary - to scabies in particular - there is the same nephrological risk, which may then take on epidemic proportions.

\* by A. Mahé

This risk is behind the recommendation that cases of streptococcal impetigo consistently receive systemic antibiotic treatment. However, it should be clear that this risk is relatively slight (only 3 to 4 % of cases of streptococcal impetigo within a context of epidemic glomerulonephritis develop this complication).

Furthermore, certain types of impetigo, and perhaps most of them, are caused by non-nephritogenic strains of streptococcus, and more particularly by a group other than the A group (often the G group). *Staphylococcus aureus* is often present, especially in forms with a drawn-out course. These facts make the draughting of standardized recommendations for the treatment of impetigo problematic, in the absence of data on the germs involved locally. Systemic antibiotherapy cannot and should not be implemented routinely. In those instances where it is indicated, macrolides are the antibiotics of choice, but their high price restricts their use.

## Management <sup>(1)</sup>

The fact that about 10 % of children in developing countries suffer from pyodermitis means that we must be economical in prescribing medication. Systemic antibiotherapy should therefore be reserved for the most serious forms (aside from contexts - actually quite exceptional - involving an epidemic caused by nephritogenic streptococci). The following attitude may be recommended :

- mild pyodermitis (a few, small-sized lesions) : simple antiseptis (potassium permanganate, povidone-iodine) ;

- severe pyodermitis (disseminated, pitting ulcers, fever, impaired general health...) : antiseptics and systemic antibiotherapy. Depending on what is available locally, the following drugs listed here by order of decreasing preference, should be used : macrolides (erythromycin) or oral penicillin V, or a single, parenteral injection of slow-release penicillin ;

- intermediate forms of pyodermitis : management is the same as for mild forms, with the possible addition of topical antibiotherapy (aureomycin ointment, which is mostly of value when crusts have developed) ; in case of failure, resort to systemic antibiotherapy.

## Infections of hairy areas

### *Erysipelas*

Infections of hairy areas (folliculitis, boils) occur mostly in adults. The most prominent type of infectious cellulitis is erysipelas, which is characterized by redness, and warm, painful swelling, located on a limb (usually the leg) or on the face (elevated borders is a characteristic sign, then). The bacteriological aetiology is streptococcal, but the possibility of malignant staphylococcia should be visualized : it is clinically quite similar, with the exception of severe impairment of general health, the absence of elevated borders and the presence, in the latter case, of a mediotfacial, often endo-nasal boil, which patients tend to finger.

(1) Cf. the chapter on treatment for a detailed discussion of care based on antiseptics and antibiotics.

## ECTOPARASITOSEs

### Scabies

Treatment of erysipelas relies on penicillin (a single injection of slow-release penicillin may suffice). Malignant staphylococci should be treated using antistaphylococcal agents (penicillin M., synergistines).

Other, more unusual germs may occasionally be encountered. Cases of cutaneous diphtheria have occasionally been reported : this condition may be suspected when pitted, punched-out ulcers and necrosis are seen, along with sloughing, adhesive false membranes. There is then a risk of systemic complications (myocarditis, neurological conditions).

Anthrax is occasionally seen in rural areas. It is characterized by black ulceration on which a crust has formed, ringed with vesicles turning into oedema, which may be enormous (this is the «malignant pustule»). Death, through septicaemic dissemination, may ensue.

Buruli's ulcer is caused by *Mycobacterium ulcerans* and is encountered in humid, marshlands ; its identifying features are extended ulceration of the trunk or limbs, with undermined margins.

We will not describe the various types of collected and fistulized suppuration. It should be noted, however, that infections of pierced ears are frequent, and tend to take on «epidemic» proportions when a same needle is used for all girls in a same age group. It is the foreign body represented by the earrings themselves which entertains the infection, and removal of the latter is the first, primordial therapeutic act.

Scabies is caused by *Sarcoptes scabiei hominis*, a parasite transmitted exclusively between human beings, generally during intimate contacts within the home setting. It is more or less endemic throughout the African continent, but also in South America and Asia. This is a disease born of overcrowding. Spectacular epidemics are reported on occasions, and are definitely far more frequent than what is reflected by official notifications. The clinical diagnosis of scabies is generally quite obvious.

In Bambara country, in Mali, scabies is known as «Korossa-Korossa», a term representing the phonetic transcription of the sound produced by ferocious scratching, and designating any familial itching ailment : this seems to be a minimalistic but perfectly relevant summary of the symptoms of scabies.

The main symptom, then, is itching, mostly at night, with a characteristic preference for certain regions : the buttocks (the gluteal folds), the wrists, the interdigital spaces on the palm of the hands and a tendency to respect the face in children over two. Spreading to the elbows, knees and trunk is possible. In infants, the characteristic locations are the palms of the hands and the soles of the feet. The head is almost always spared, except in infants (cf. pictures 1, 2, 3, 4, 5).

Examination shows interdigital vesicles and excoriated papules on the above-mentioned sites. Superinfection is quite frequent, and is practically constant in infants in whom the existence of palmar and plantar pustules has led to a diagnosis of scabies. There is no need to look for the furrow, to corroborate the diagnosis, since it is rarely visible on black skin, and generally overrun with superinfection. This would be useless, in any case, since the diagnosis is easily advanced, as a rule, on the basis of the above-mentioned symptoms, and also of another basic, constant symptomatological element : the familial character of the itching. Indeed, the members of a same family will be affected, more or less severely, by this ailment, although all may not be touched. Individual hygiene is highly variable and determines the frequency and seriousness of superinfection in each person. Scabies affects adults as well as children, but elderly people sometimes hesitate to mention symptoms located on the most intimate parts of their body.

The chapter on differential diagnosis is a short one. «Filarial scabies» caused by onchocerciasis may imitate sarcoptes-caused scabies in some individuals. The epidemiological context is not at all the same, however : in the former, the presence of onchocerciasis has been identified in the area, there is a waterway nearby, adults tend to be affected (where cutaneous symptoms are concerned), blindness is prevalent in the village. Skin symptoms of protracted onchocerciasis are different from those produced by scabies (there is pachyderma and cysts). Itching caused by other parasites may be more difficult to differentiate. If there is any hesitation, a therapeutic test (using benzyl benzoate for instance) should be preferred to a hazardous attempt to identify the parasite in the material removed by scratching.

## Management <sup>(1)</sup>

Our preference, among the agents used to combat parasites, goes to benzyl benzoate, which may be secured in a ready-to-use form (Ascabiol<sup>®</sup>), or more economically, as a concentrate (90 or even 100 %), for dilution. Recommendations as to the best strength of benzyl benzoate range from 10 to 20 % (it is wise to avoid exceeding 10 % in infants). The n° 7 mother solution distributed by the World Health Organization (WHO) contains benzocaine, which is unneeded and induces allergy. Some preparations, to which ethyl alcohol has been added, may be toxic for infants.

A single application, covering the entire body with the exception of the head, which should not be removed for 24 hours in adults and 12 hours in children under two, is sufficient in most cases, in our opinion. It is preferable, but not necessarily indispensable, to disinfect undergarments and bedding with lindane powder (Aphthiria<sup>®</sup>). Ordinary cleansing is often sufficient. Treatment of contact individuals (family members), including those who do not

(1) Cf. the chapter on treatment for a detailed discussion of the various treatments used to combat parasites.

experience itching but are potentially in the incubation phase, seems to be more important, but difficult to implement.

In case of severely superinfected scabies, attention should be given to the pyodermitis before proceeding with anti-scabious treatment. Several studies have shown how difficult it is to eradicate scabies in a large community. Successful attempts, in village-wide epidemics, involved the implementation of heavy, costly protocols in which sentinel workers immediately treated those new cases which inevitably developed. In the same line of thought, we suggest treatment of as many affected individuals and contacts as possible, with stocks of benzyl benzoate being left on hand so that people may treat the unavoidable subsequent cases. Active community cooperation is necessarily the guiding rule.

## Lice

Infestation with lice (*Pediculus capitis*) is epidemiologically and clinically similar to what is seen in developed countries. Diagnosis is based on the discovery of nits, which are small bag-like structures adhering to the sides of hair, especially around the neck. Girls tend to be affected more frequently, since African boys are protected by the fact that they often have their head shaved. Self-medication is frequent, here, using more or less aggressive substances, which may or may not be effective (non-medicalized DDT, insecticide sprays, motor oil, etc.). Management advice should include shaving of the head. In case of refusal, by girls in particular, lindane powder is applied to the scalp, and left there overnight; this is repeated one week later.

## DERMATOPHYTE INFECTIONS

### Tinea

Different types of tinea, or dermatophytes of the scalp, are frequent; most cases are benign and disappear spontaneously at puberty. This preamble immediately gives the measure of this pathology, which definitely may be spectacular in some cases, but is not disabling. A mycological analysis distinguishes microsporal forms, or ectothrix, from the trichophytic forms, or endothrix. Little is known about the epidemiology of these different types of tinea in developing countries. Boys tend to be affected more than girls. There are geographic variations in the causal dermatophyte agents. For instance, *Microsporum langeronii* prevails in the Guinean forest areas, and in the Sudan-Guinea region, whereas *Trichophyton soudanense* is encountered farther north and *T. violaceum* is mostly seen in the Sahel. *T. schoenleinii*, which causes favus, is encountered essentially in North Africa, but some cases have been reported in black Africa. However, the latter agent seems to be receding, especially in urban areas.

Tinea may be diagnosed on a purely clinical basis in the vast majority of cases. It produces scaly plaques on the scalp, on which the hair is broken very short (constituting pseudo-alpecia). The size and number of these patches theoretically provides an indication as to the species involved: microsporal forms of tinea produce a small number of large plaques, whereas numerous, small plaques are seen in the trichophytic forms. In fact, this distinction based on the size of the plaques is often unreliable.

*Kerion*

*Favus*

### **Management of tinea**

### **Dermatophyte infections affecting hairless skin and skinfolds**

### **VIRAL INFECTIONS OF THE SKIN**

#### **Molluscum contagiosum**

Diagnosis is more difficult in cases where the scaly appearance prevails, with discreet dandruff-like alopecia (cf. picture 8).

Kerion is an inflammatory form of tinea, characterized by a sharply circumscribed, raised lesion with inflammation and pus (cf. picture 9).

Favus requires a separate description, since it is particularly serious. The basic lesion is the crusty, squamous, cup-shaped favus, with its honeycomb-like appearance, centred around sparse, normally-long hair. A «mousy» smell is characteristic. The entire scalp is gradually affected, with the exception of a sparse, peripheral fringe. When left untreated, the disease continues to progress in adult life. Cicatricial alopecia is definitive, and this is what makes the condition serious. The nails may be affected as well, as is the case in fungus infections in general, but in this particular case they constitute a reservoir that is difficult to eradicate.

In most cases, abstention is the best policy, since recovery is practically automatic at puberty. If there is a strong demand for treatment, or when it is specially indicated (as in favus), a 10 to 20 mg/kg/day dose of griseofulvin should be administered orally for 4 to 8 weeks, and the child's head shaved aseptically. «Epidemics» of severe pyodermitis of the scalp, which may cause definitive alopecia, have occasionally been observed following mass shaving using contaminated instruments.

The terms «Hebra's eczema marginatum» - which is not a form of eczema - and «herpes circinatus» - which is not caused by a herpes virus - should be banished from the medical vocabulary, since they elicit confusion in many non-specialists. Dermatophyte infections of the hairless skin are characterized by rounded lesions which extend outward from their vesicular, itchy and often hyperpigmented margins. At worst, concentric multi-annular lesions are seen. They may or may not be attended by tinea of the scalp.

Intertrigo is relatively rare among children. Several types may be seen :

- intertrigo of the buttocks, usually originating in the peri-anal region, and often accompanied by thrush caused by candida infection ;
- interdigital-plantar intertrigo located on space IV, which is dermatophytic and favoured by maceration in older children ;
- intertrigo of the large, dermatophyte-infected axillary or inguinal folds, which is rare in children.

Treatment requires the application of an anti-fungal agent twice a day for 3 to 4 weeks.

This ailment is caused by a pox virus, and is characterized by small, rounded, flesh-coloured raised areas, with a typically umbilical centre. They may be located anywhere on the body, but often appear on the face (cf. picture 10). The lesions are generally confined to a single territory, which is indicative of the self-

inoculable nature of this dermatosis. In most cases, this condition is benign, and recovery is spontaneous, as shown by the fact that its prevalence declines with age. Certain cases do raise a problem, however, either because of superinfection (often connected with inappropriate self-medication) or because of the proliferation of lesions, which are both inaesthetic and susceptible of superinfection.

Management : in the vast majority of cases, it is best to refrain from any treatment ; if there is a strong request, or when lesions are prolific, aseptic removal using a curette is preferable.

## Warts

They do not entail any problem, in practice, and actually seem to be quite exceptional in rural areas. Buccal viral papillomas, which tend to be located on the mucous tissue of the lips, are more frequent, in our experience. All of these lesions are absolutely not serious, and may be disregarded.

## ECZEMA, ECZEMATIDS AND PRURIGO

Eczema will be discussed in detail in the next chapter. Suffice it to say that it is apparently much more frequent in urban areas than in the countryside.

Ecematids (also known as darts) are small, discoloured slightly scaly, dry plaques which may be located anywhere on the skin. There is often a definite follicular appearance, showing small, raised areas with a hair in the middle. Mild itching is occasionally noted. It is important to be familiar with these extremely frequent and perfectly benign lesions, since it is sometimes difficult to distinguish them from indeterminate leprosy. The absence of disordered sensitivity (not easy to detect in a child, and not consistently developed in leprosy at this stage), the large number of lesions (which, if leprosy actually were involved, would class the patient in the multibacillary category, susceptible of corroboration by bacilloscopy), the existence of fine desquamation and the unpredictable nature of the lesions are the best diagnostic criteria pointing to eczematids. Another argument is the efficiency (variable) of treatment with an «emollient» (that is, use of a substance such as shea butter or simple vaseline, to oil the skin). Association with parasites of the digestive track is habitual.

Prurigo is defined by its basic lesion : the itching papule covered by a vesicle, often excoriated by scratching ; on black skin it is hyperpigmented. The first hypothesis advanced should be a diagnosis of scabies. But aside from this well-defined ectoparasitic disease there are other types of prurigo, confined to the limbs, of varied origins : insect bites analogous to the classical prurigo strophulus, ectoparasites located on pets, atopic disease, and possibly, internal parasites.

Management (which is empirical) involves ridding the intestines of parasites, in conjunction with applications of crotamiton, and protection against insect bites.

## MODIFICATIONS OF THE SKIN

Several borderline physiological conditions occurring in reaction to what may be termed extreme climates, may develop into skin diseases : this is the case of the heat rash, also known as prickly

## Heat rash

heat, miliaria or sudamina, which is observed during the hot season, especially when it is humid as well, and is characterized by the formation of patches of small, raised, inflammatory papules, more or less itchy. The context in which it develops (intense sweating, especially during fever) as well as its location (skin folds, the neck and shoulders and, in small children, the face) make it easy to diagnose. However, care must be taken to avoid confusing this condition with eczema, failing which topical corticosteroids, which are both inappropriate and contraindicated, would be prescribed. Heat rash follows a benign course, in the vast majority of cases, but it may exceptionally be superinfected. Deep miliaria results from the inward extension of the process, and its clinical appearance is more papular than vesicular.

In hot, dry areas such as the Sahel, dry, «xerotic» skin is often encountered. Mothers are familiar with this problem, and they frequently oil their children's skin with shea butter, a very well-tolerated solution, it should be said. Plantar keratosis, in which cracks tend to develop, is observed in constitutionally predisposed people who walk barefoot or wear poorly fitting shoes. It may be quite painful, when fissures develop on the heels. They are not easy to care for in rural settings : 5 % salicylate vaseline is recommended for the callous skin and Dalibour ointment for the fissures.

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## SKIN DISEASES OF SPECIAL INTEREST\*

Alongside of those infectious skin diseases which represent the vast majority of the reasons for consulting, we may encounter other skin diseases which, although they do not reach the proportions of a public health problem, may be a source of discomfort or pain for patients, and of difficulties for the health agents who attempt to offer care for them. Furthermore, in some instances their occurrence in a tropical climate transforms them in some major ways, usually not mentioned in the commonly used handbooks despite the fact that sufficient familiarity with them is important.

### ECZEMA

#### *Atopic eczema*

Two major forms of eczema have been identified : atopic eczema and contact eczema.

Atopic eczema occurs in infants : it usually sets in between the ages of 3 months and 2 years. The basic lesion is the vesicle : it is more or less easy to identify depending on the phase of its natural course. There is the initial oozing phase, where the broken vesicles discharge a watery fluid, followed by a stage of erythematous, scaly patches (darker than the normal skin on pigmented skin), during which the vesicles are peripheral, and last, the lichenification stage, with thickened skin. At all stages, itching is intense and superinfection extremely frequent. The location of the lesions is typical of atopic disease : the cheeks, convex areas (especially the anterior side of the legs in young Africans), behind the ears in infants, the bend of the elbows or the knees in older children.

As a rule, there is an abundant history of atopic disease in the family (with allergic eczema, asthma and/or hay fever), but in practice such findings are often difficult to interpret. To avoid relapses, the very often dry and «xerotic» character of the skin should be combated. Differential diagnosis is important, inasmuch as a diagnosis of atopic eczema is tantamount to the prognosis of a chronic ailment which will continue for years. This diagnosis, which drains the family's resources, both literally and figuratively, in developing countries, should therefore be excluded in the case of sores (or eczematids), which are areas of dry skin producing little or no itching, slightly discoloured, and located on the face or trunk, or conversely, in the case of heat rash (or miliaria), which may also affect the face and the bends of the joints : prescription of topical corticotherapy would be erroneous here.

#### *Contact eczema*

Theoretically, contact eczema develops in older children. It is the outcome of application of some substance - highly variable - to which the individual becomes hypersensitive. The eczema lesions are then located in the area where the product has been applied, and this may either immediately point to the diagnosis (in the case of shoe leather, the nickel of a jeans button, a ring) or make it

\* by A. Mahé

rather delicate when contact with the allergen is only occasional. A large variety of substances may be incriminated, including cosmetics (and in Africa in particular, the mixture known as «Balm of China», the allergenic component of which seems to be the «Balm of Peru») and medications - containing mercury, antibiotic powders (penicillin) removed from their dosage forms, antihistamine ointments containing phenothiazine (Phenergan<sup>®</sup>) - but also parts of clothing such as leather, dyes, rubber (cut-up tyres used as soles of shoes), nickel (metal buttons, watches, jewellery) or plant substances (traditional medications, mangoes, limes). Shea butter is always well tolerated, in our experience. Occupational causes such as contact with cement and paints are encountered in adults. Aetiological investigation is often difficult, in the absence of epicutaneous tests, and in practice it is best to convince the patient to make a trial elimination of the suspected substances.

### Treatment

Guidelines for treatment are the same for both forms of eczema, with the addition of the complete elimination of the allergen in the case of contact eczema. One essential point should be made : topical corticosteroids are normally highly effective, but great caution should always be exerted in prescribing them in tropical areas, owing to the serious risk of superinfection entailed by their use. When superinfection is detected, as is very often the case, it constitutes a formal contraindication for corticotherapy, since the anti-inflammatory action of the latter actually causes the rapid extension of the infectious process. Consequently, it is usually recommended that the following treatment, which excludes corticosteroids, be applied over a relatively long lapse of time : antiseptics (potassium permanganate, extremely diluted, to 1/20,000, preferably in baths then maintained in contact with the oozing lesions using compresses), wide-spectrum systemic antibiotherapy (systematic in the case of atopic eczema), water-based zinc paste, oily substance on the driest lesions. Following a few days of this treatment (which may be sufficient for contact eczema), topical corticotherapy may be added if the superinfection is cured. In atopic eczema, weaning from corticosteroids should be gradual (tapered application : twice daily at first, then once a day, then every other day, etc.) and accompanied by oiling of the skin (vaseline, possibly containing 10 % urea).

### LEG ULCERS

Leg ulcers are frequent in tropical areas. The most common origin is secondary superinfection of a wound. This is sometimes «phagedenic», meaning that it progresses and spreads rapidly and is perpetuated by the lack or inadequacy of care. A contributive systemic factor (such as homozygous sickle cell anaemia, malnutrition or anaemia) may be seen, and should be combated whenever possible.

These leg ulcers should not be neglected, since they are portals of entry for any number of infections (the first of which being tetanus) and may develop into cancer if they persist over a protracted period of time. It is a fact that cancerized leg ulcers heads the list of skin cancers in Africa.

## Treatment

The main treatments for leg ulcers all follow the same lines. First aid should be given by a health agent, after which care may be dispensed by families in the best of cases. Treatment is as follows :

- antiseptic bathing is an essential prologue ; potassium permanganate (correctly diluted to 1/10,000 to 1/20,000, barring which it is caustic) seems to be the least costly ;

- cleansing is the first step, and involves the elimination of necrotized tissue and clotted blood, which hinder cicatrization. It should be mainly manual, and aseptic. In difficult cases, permanent dressing with compresses soaked in water containing a permanganate solution, replaced as needed, is recommended ;

- once the cleansing phase is over, an attempt is made to favour granulation. This is done with the help of an oily substance (aureomycin ointment, Dalibour ointment or even ordinary vaseline). In case of excessive granulation, cautious use of the silver nitrate stick is recommended ;

- the epidermization phase overlaps the previous phase. Care is given daily, at first, then every two or three days once the cicatrization process is under way.

It is essential that some general measures be dispensed along with this care :

- immunization against tetanus should be systematic ;

- renutrition and the correction of anaemia are important ;

- serious superinfection requires systemic antibiotherapy, using slow-release penicillin (in case of erysipelas, the signs of which are a hot, red, painful, swollen leg, with fever). Use of erythromycin is preferable, but it is more expensive. Recurrent forms of erysipelas may require prolonged prophylaxis with slow-release penicillin. Associated interdigital mycosis should never be neglected, since this is a frequent, concealed portal of entry.

In case of chronic, non-inflammatory oedema, generally of venous origin - a relatively infrequent occurrence in developing countries (whereas in developed countries, most ulcers are of venous origin)

- the legs of the bed or the bedding should be raised and the patient advised to wear an elastic legband - a rather illusory counsel in a hot climate.

Leg ulcers, even when they seem quite hopeless, definitely merit attention : some instances of surprising recovery of ulcers that have been neglected for many years have been recorded.

## KERATINIZATION DISORDERS

### Psoriasis and pityriasis rubra pilaris

Psoriasis and pityriasis rubra pilaris (PRP) are much more exceptional ailments. They are characterized by thick, squamous patches beneath which redness (erythema) is more or less easy to evidence. The preferred sites are the elbows, knees, lumbar region, scalp, palms of the hands and soles of the feet. In PRP, the outlying areas contain patches of horny follicular papules.

## **Ichthyosis**

Treatment is symptomatic, using salicylate vaseline, symptom-correctors or topical corticosteroids (the latter only in case of psoriasis).

Ichthyosis is characterized by extreme dryness of the skin, with the formation of «scales» suggestive of fish or lizard skin in the advanced phase. It is of genetic origin. Treatment is symptomatic.

A general remark concerning all of these keratinization disorders : phrynodermia, which consists of a series of dermatological signs linked to vitamin A deficiency, is described as a papular, follicular, horny eruption in a xerotic context. In fact, the connection between this condition and vitamin A is seriously challenged, and the arguments presently advanced are not sufficient to justify recommendation of systemic prescription of vitamin A simply because of the presence of this sign.

## **DERMATOSIS OF «IMMUNOLOGIC» ORIGIN**

### **Urticaria**

When seen on black skin, urticaria shows oedematous, itching papules, which change place within a matter of hours, occasionally with swelling of the mucous membranes. There are a number of causes, often difficult to determine even when sophisticated medical facilities are available. The causes most worth keeping in mind are as follows :

- urticarial toxicoderma, occurring following absorption of a drug. It occurs rapidly (within hours or even minutes), and is indicative of potentially lethal anaphylaxis (see below for the management of a skin reaction caused by medication) ;
- infestation with a digestive parasite should systematically elicit action (blind, if necessary). The symptomatic treatment of urticaria is based on oral antihistamine agents.

### **Lichen planus**

For some unknown reason, lichen planus is widespread in developing countries. Signs include firm, shiny, dark red, pigmentogenic, itchy papules. Topical corticotherapy is the preferred treatment.

### **Toxicoderma**

Toxicoderma is a skin reaction subsequent to the systemic absorption of drugs : there is an enormous variety of forms :

- urticaria, eruptions (rashes) imitating measles or scarlet fever ;
- permanent, pigmented erythema : pigmented, round, permanent macules, responding to each dose of the drug to which the patient is sensitized by inflammation, often bullous ;
- polymorphous erythema : a roset-like lesion ;
- bullae, peaking in Lyell's syndrome, with widespread bullous detachment, causing resemblance to a severely burned patient. Prognosis is very poor.

While diagnosis may be easy, when the eruption occurs following the absorption of a single, well repertoried drug, it is often quite complex (questioning elicits imprecise answers, many drugs have been taken, there is resemblance to another skin disease, etc.). It

## **GENO- DERMATOSIS**

### **Albinism**

is out of the question to discuss all the subtleties of diagnosis of toxicoderma here. The most important point is that some drugs tend to generate such reactions more frequently, and particularly so because they are often the object of self-medication. The list includes the sulphamides, non-steroid anti-inflammatory agents (including aspirin), derivatives of penicillin, etc.

Prognosis of toxicoderma is always potentially serious, and it is therefore out of the question to attempt a reintroduction test : a drug that produced mild toxicoderma the first time may turn out to be lethal upon subsequent intake.

Aside from oedematous reactions affecting the mucous membranes, which call for systemic corticotherapy, and anaphylaxis, which requires treatment with adrenalin, the only way to treat toxicoderma is to order definitive discontinuation of the drug incriminated. This must be made clear to the patient, who should be given a certificate.

This is hereditary skin disease.

Relatively little is known about albinism, medically speaking, despite the fact that it is not at all infrequent. In certain parts of Africa prevalence is about 1 case per 2,000 births, which is somewhat similar to that of leprosy.

In subsaharian Africa albinos have a special social status, and this may account to some extent for the lack of interest in them. Several animistic doctrines view these people as being of a supernatural essence, and in earlier times they were occasionally sacrificed during religious ceremonies. This explains why they are relative outcasts in certain regions, and in rural areas in particular.

Genetically speaking, this is an autosomal, recessive disease. The absence of skin pigmentation in the offspring of parents with black skin is often subjected to traditional symbolic interpretations. Conversely, when both parents are albinos their children are necessarily albinos as well. This disease is defined by the hereditary absence of melanin in the skin, hair and retina. Certain individuals have a slight pigmenting activity, which takes the form of a light, diffuse colouring and the gradual occurrence of disgraceful star-shaped spots on the uncovered regions. People with albinism are extremely sensitive to sunlight, and suffer from severe sunburn, premature ageing of the skin, early development of skin cancers, photophobia and reduced visual acuity (which may be corrected in some cases). Nystagmus is invariably present.

Both child and family must be taught to protect the child against sunlight, by avoiding exposure during the sunniest hours of the day, wearing a hat, sunglasses and long-sleeved clothing. This is easier in urban settings than in the countryside. At school, any visual impairment should be compensated by seating in the front of the class, the prescription of eyeglasses, etc. In adults, monitoring for pre-epitheliomatous keratosis (small, rough, raised areas) should be routine and followed by destruction (preferably using liquid nitrogen). Social exclusion should be combated.

## **Xeroderma Pigmentosum**

Xeroderma Pigmentosum is an autosomal recessive ailment encountered essentially in the Maghreb, frequently in conjunction with consanguinity. While pigmentation is normal here, there is severe intolerance of sunlight, owing to deficient repairing of sunlight-caused impairments in the desoxyribonucleic acid (DNA) of cells in the epidermis. A typical, poikilodermic skin condition - that is, characteristically, the combination of basic atrophy lesions, hyper and hypo-pigmentation and telangiectasis - develops rapidly. The early occurrence of severe skin cancers during childhood is practically unavoidable in tropical environments.

Genetic counselling should be offered for patients with these different genodermatoses ; in our experience, it is not easily accepted, however.

## **MALNUTRITION- RELATED SKIN DISEASES**

### **Kwashiorkor**

Kwashiorkor, theoretically linked to deficient protein intake when calorie intake is relatively adequate, is actually probably the outcome of a more complex combination of deficiencies. It is occasionally accompanied by cutaneous signs. Some very typical symptoms are straight, sparse, thin hair, pale skin alternating with some hyperpigmented areas and above all, the «peeling paint-like» appearance of the skin, which comes off in pieces in some places (such as the buttocks). Protein-deficiency oedema, «grumpiness» and hoarse crying complete the picture. The prognosis is poor and treatment is only conceivable in a hospital.

### **Noma**

Noma often occurs in a context of malnutrition, but this is not necessarily the case. It involves gigantic ulceration of the face, around the mouth, which develops within days. Bone destruction is considerable, leaving aftermaths which may make eating close to impossible. The point of departure seems to be a peridontal infection with anaerobic germs. Antibiotherapy (with penicillin or metronidazole) aimed at these germs is therefore indicated, but apparently it is always begun too late. Once the ailment has begun on its course, it continues to progress. To repair the damage, sophisticated plastic surgery is required.

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## MAJOR ENDEMIC DISEASES WITH DERMATOLOGICAL SIGNS\*

The major endemic diseases will be presented here from a dermatologist's viewpoint. Although the cutaneous signs connected with the great classics among endemic diseases are generally innocuous or mild in themselves, the scope of the present study requires a discussion of the latter, since they greatly facilitate identification of the systemic disease, of which they are the most visible symptom. These conditions have been abundantly described in most works on tropical pathology, and the present paper will confine itself essentially to the symptomatological and dermatological aspects, and to identification. Individual and collective management will be briefly mentioned, since interested readers may easily find more complete writings on the subject.

### LEPROSY

In those countries most severely touched, the prevalence of active leprosy is approximately 1/1,000. Although the objective of «eradication of leprosy by the year 2000» seems overly optimistic, most of the countries involved have implemented vigorous programmes providing care for this disease. The programmes generally include a large «training» section. While identification of this condition is theoretically easy for a specialized worker, the same is not at all true for an agent working at a health outpost, for whom leprosy is a rare disease, which must be singled out among patients at large, who consult for any number of reasons, and especially among those with skin problems. It is within this perspective that the identification of leprosy will be discussed.

### SYMPTOMATOLOGY

Leprosy is an extremely versatile, occasionally deceptive disease, and in our opinion it constitutes the second «great deceiver», the «first», classical one being syphilis. It is a fact that the disease has a wide anatomico-clinical spectrum, ranging from paucibacillary forms with «satisfactory» immunity to multibacillary forms with specifically deficient immunity to *Mycobacterium leprae*. Roughly speaking, the clinical forms of lesions tend to increase in number and to be poorly delineated as they are closer to the multibacillary pole.

Before discussing the main clinical forms of the disease, it is important to emphasize the main points involved in diagnosis. It does, indeed, seem that most problems may be solved through two types of reasoning. The first is clinical, through testing for disordered superficial sensitivity, which is extremely frequent during paucibacillary leprosy, and the other is para-clinical, through evidencing of bacilli, in the multibacillary forms. Another major clinical approach involves the detection of impairment of the large nerve trunks (producing neural hypertrophy, paralysis, anaesthesia), but these complications occur relatively late. When leprosy is suspected, then, the following points should be systematically evaluated :

\* by A. Mahé

- superficial sensitivity of the suspicious lesion : methodical examination, making sure that the patient is not influenced, with study of the various components of sensitivity (to a pin-prick, contact, heat) ;

- palpation of the large nerve trunks ;

- testing of the motor functions and sensitivity commanded by these nerve trunks (the cubital, median, radial, sciatic, lateral popliteal, tibial posterior and facial nerves) ;

- and, when a multibacillary form is suspected, microscopy is required and the patient should be referred to a competent technician.

The symptomatology of leprosy is essentially papular. Once dermatological examination has eliminated the most commonplace diagnostic hypotheses (molluscum, warts, urticaria, etc.), the presence of papules should generally alert the clinician to the probability of an unusual condition, the first of which is leprosy.

Another symptom may guide diagnosis : that is, deficient perspiration, which is particularly evident in paucibacillary forms. A significant negative sign is the absence of itching.

## MAIN CLINICAL FORMS

### Indeterminate leprosy

Indeterminate leprosy is an early form, and is seen essentially in children. It is characterized by a hypochromic spot - that is, one which is incompletely depigmented - located on any part of the skin. Disordered sensitivity is not consistently present.

Differential diagnosis first concentrates on vitiligo, which is typically achromic - that is, characterized by complete loss of colour - and which may involve characteristic depigmentation of the body hair as well, and then on achromic naevus, which is congenital, and pityriasis versicolor, with its fine scales, located on the upper part of the trunk and often on the face. In our opinion, differentiation should concentrate above all on eczematids, which have been discussed above. It should be noted that most of these conditions are more frequent than leprosy.

Conclusive diagnosis can only be histological, based on examination of perineural and perisudoral infiltrates. When this technique is not available, then, diagnosis and particularly the exclusion of the involvement of simple eczematids, may be extremely difficult. The attitude consisting of diagnosing leprosy for security reasons may sometimes be justified. If one is sure that monitoring of the child is feasible, «armed» surveillance seems to be a reasonable attitude, but it is important to keep in mind the fact that spontaneous recovery from indeterminate leprosy is frequent.

### Tuberculoid leprosy

In tuberculoid leprosy, there is a small number of clearly limited, hypochromic, copper-coloured and more or less papular lesions. Disordered sensitivity is evident, along with deficient perspiration. Furthermore, hypertrophied neurological reactions on the periphery of the lesions should be sought. Differential diagnosis is

faced with a great many possibilities, the most difficult of which, in our opinion, are the lupoid form of leishmaniasis and endemic treponematoses, along with dermatophyte infections affecting the hairless parts of the skin when they have been abusively treated by topical applications of corticosteroids, producing deceptive discolouring. Annular granulomas, and their actinic African form, Leiker's polymorphous granuloma, as well as sarcoidosis, always very difficult to diagnose in regions where leprosy is endemic, should be kept in mind.

### **Lepromatous leprosy**

Lepromatous leprosy is relatively infrequent in children. There are a great many indistinct lesions, which are not the seat of disordered sensitivity. They are cloudy, hypochromic macules (spots), difficult to assess (the skin should be observed obliquely) with small, raised nodules, or lepromas, which may be located anywhere on the skin (and especially on the pavilion of the ear). The face may be distorted (what is known as «lion's face»), or develop a deceptive oedema, which may also be seen on the legs. Alopecia of the eyebrows is a classical sign. Bacilloscopy findings are positive.

It is important, for differential diagnosis, not to confuse lepromatous leprosy with systemic scleroderma (showing acrosclerosis, spotty depigmentation and infiltrated oedema of the face).

### **Borderline leprosy**

Alongside of these two distinct, immunologically stable poles, there are some intermediate forms in which the host's immune reaction may change suddenly. They produce what are known as «reactional» episodes. The symptomatology of these borderline forms is extremely varied and deceptive, and may roughly be depicted as located somewhere between the two poles - tuberculoid and lepromatous - showing annular lesions with strange contours. So-called «reversion» reactions take the form of sudden inflammation of pre-existing lesions, and are often accompanied by neuritis requiring emergency, specialized medical/surgical care.

### **Lepromatic erythema nodosum**

Lepromatic erythema nodosum is seen in lepromatous patients, generally those under treatment, and is characterized by a fluorescence of small, inflammatory nodules accompanied by systemic signs (including fever, painful joints, etc.).

### **CARE**

Care, as standardized by WHO, is shown on the following recommended treatment chart (cf. table 2).

Table 2  
Treatment of leprosy (WHO recommendations)

|            | Rifampicin          | Dapsone | Clotazimine                 | Duration of treatment |
|------------|---------------------|---------|-----------------------------|-----------------------|
| Leprosy PB | monthly (monitored) | daily   | —                           | 6 months              |
| Leprosy MB | monthly (monitored) | daily   | monthly (monitored) + daily | 24 months*            |

\* at best : in fact, until bacteriologically negative

PB = paucibacillary, MB = multibacillary

Doses for children : rifampicin (10 mg/kg), dapsone (1.5 to 2 mg/kg/day).

Treatment of reactions is left in the hands of specialized health agents, and involves systemic corticotherapy, sometimes completed by surgical decompression of the large nerve trunks in the case of neuritis. Thalidomide is given in leprotic erythema nodosum, with the understanding that it is formally contraindicated in women of childbearing age, and should only be prescribed when monitoring of drug intake is feasible. These precautions are justified by the highly teratogenic action of this drug.

## CUTANEOUS LEISHMANIASIS

### *Oriental sore*

Cutaneous leishmaniasis, which is endemic in many tropical regions, takes on numerous clinical forms. Only the most frequent and the most classical of these, the Oriental sore, will be described here. At the outset, the lesion imitates a boil. Later on, persistent ulceration develops, with indicators that are helpful for diagnosis : it is painless (this is not necessarily the case when superinfection with common germs is present) and located in uncovered areas (very variable depending on dressing habits). In the dry form, this ulceration is covered by an adhering scab. The absence of a scab defines the moist form. This division into wet and moist forms is conventionally believed to depend on the parasite involved (*L. major* being responsible for moist forms and *L. tropica* for dry forms) as well as on the type of dwelling-place (urban or rural), the latter distinction corresponding to the previous, parasitological one. A great many cases are in contradiction with these theories, however. The ulcerations may be filled up in the course of the disease, resulting in papular (=lupoid-) forms.

### *Treatment*

Diagnosis requires identification of the parasite : the body of leishmania must be found in the serous fluid. Treatment is mostly based on the pentavalent derivatives of antimony, applied topically in the Old World, limited forms, or systemically in all other cases. Many other substances are assumed or presumed to be active on leishmaniasis (ketoconazole and allopurinol in the

former category, pentamidine and paromomycin in the latter), but most are not easily available. It is often legitimate to refrain from any treatment in the non-distorting Old World forms, particularly since the reference treatment is costly and frequently difficult to obtain. Simple antiseptic treatment is then applied until complete, spontaneous recovery occurs (three months to one year, depending on the parasite involved).

## **FILARIASIS**

### **Onchocerciasis**

«River blindness» has a dermatological side, with lesions caused by scratching, which may imitate sarcoptic scabies at first. Later on, there is extensive lichenification of the skin (on the lumbar area, the buttocks and the tibias), as well as pigmentary disorders. Cysts are good indicators, but are not always present. It is important to note that the famous «leopard-skin» depigmentation of the anterior side of the legs is in no way specific to onchocerciasis. Diagnosis is based on the evidencing of microfilariae in a bloodless skin biopsy. Mazotti's test may be valuable. Curative treatment calls for ivermectin.

### **Lymphatic filariasis**

Elephantiasis is preceded by episodes of filarial lymphangitis, which, in practice, is very difficult to distinguish from episodes of bacterial infection. Any bacterial participation in these episodes must be systematically combated, using slow-release penicillin. Examination for microfilaria is conducted at night.

### **Dracunculiasis**

The seasonal occurrence, in a village setting, of infectious cellulitis on the legs, with discharge of filaria, makes this the obvious diagnosis. Treatment is symptomatic, with anti-tetanus vaccination, antiseptics, antibiotics, surgical draining of the collected fluid.

## **ENDEMIC TREPONEMA- TOSIS**

### *Pian, Bejel and Pinta*

Given the fact that programmes aimed at controlling these treponematoses (bejel, pian and pinta) have been discontinued in some parts of Africa, their re-emergence was unavoidable.

Pian, or yaws, is encountered in humid tropical regions, while bejel is seen in dry climates (the Sahel, desert areas), and pinta occurs in South America.

Dermatologically speaking, lesions may be commonplace, similar to pyodermitis (in primary forms of pian) but are mostly unusual, papillomatous «strawberry-like» (in pian) or annular, «syphilitoid» (in bejel). Damaged mucous membranes (with superficial, painless ulceration and papillomas) may be seen, especially in bejel. Pinta is characterized by frequent pigmentation disorders (sequelae vitiligo-like piebald depigmentation).

Skeletal complications are occasionally encountered, with early periostitis of the phalanges (in pian) and late distortion of the tibias or of the nose bones (in pian and bejel). Visceral complications are exceptional (there are some rare cases of aortitis in bejel).

Diagnosis requires blood testing for treponemas. Treatment involves administration of a single injection of slow-release penicillin to the patient and to contact individuals. Eradication of

- endemic treponematoses through mass treatment campaigns is theoretically feasible but would require a tremendous effort which no longer seems to be called for.
- Early congenital venereal syphilis** The signs of early congenital venereal syphilis develop during the first months of life, with a palmar-plantar bullous eruption, bloody rhinitis, rhagades (fissures) around the mouth, skeletal symptoms («pseudo-paralytic» osteochondritis of the long bones) and hepatosplenomegalia.
- Other cases** Cutaneous signs may accompany infestation with other parasites.
- Bilharziasis** Both digestive and urinary types of bilharziasis may involve cutaneous signs following the aberrant migration of eggs. They are typical in appearance, with a bouquet of pigmented papules located on the trunk. Vulvar papillomatous lesions may be seen in little girls.
- Amoebiasis** Widespread peri-anal ulceration may develop in conjunction with amoebiasis.
- Larva migrans** Migration under the skin of the dog hookworm, larva migrans, produces a serpiginous, itching line of eruption that moves several centimetres a day, in a part of the body that has been in contact with the excrements of dogs. Scratching may induce superinfection, within which the characteristic line may be difficult to observe. It is treated by topical application of thiabendazole (3 tablets in 20 g of vaseline). In older children, ivermectin may also be effective.

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## AN ANTHROPOLOGICAL APPROACH TO DERMATOLOGY PROBLEMS\*

On the whole, dermatological conditions are treated similarly in Africa, Europe and Asia. It is true that medical knowledge and treatment are applied to pathological entities defined by biological criteria which are independent, to a large extent, of the sociocultural contexts encountered.

On the other hand, there is considerable intercultural variability in the interpretation of the diseases, attitudes toward and management of care, as well as in the lifestyles conducive to certain disorders. The social facts specifically defining each human community must be taken into consideration if these are to be understood. It is quite possible to achieve an understanding and a structured view of this cultural diversity, however. To do so, a strict anthropological approach must be applied, despite the fact that the objects studied are unique, by definition. The observation of practices as well as the collection and analysis of data on the social representations of disease must conform to some scientific rules, the coherency of which demands that an orderly process be followed. This study does not pretend to be exhaustive, by any means, nor to present the only possible method; the intention is simply to put forward a number of anthropological guidelines which may be helpful in developing health action where dermatology problems are concerned. Survey material collected in various cultural settings will be used to illustrate these remarks.

### NAMING SYMPTOMS AND DISEASES

Many medical acts take the form of dialogues broaching various subjects. When a patient is questioned about his/her identity and lifestyle, when a medical history is taken, a treatment or a series of preventive measures explained, for instance, two or more protagonists are involved, each of whom, in turn, describes and discusses his or her point of view on a same disease. This is a dissymmetric relationship, since the patient is describing his or her pain and subjectively felt symptoms while the care person is looking for and identifying clinical signs that will be helpful in naming a disease and an aetiology, with which a treatment may be connected. Although this is a very commonplace remark, it points to several consequences, which will be discussed below.

First of all, it is important to point out that this exchange of health-related information always involves a translation between the technical, medical vocabulary used by the doctor and the range of ordinary, unspecialized representations of the disease through

(1) Readers are advised to refer to the paper entitled "Home identification of diseases: the health system and the decision to seek care", by Jon Cook, which offers a model for an anthropological approach to the study of health systems.

\* by Y. Jaffré (1)

which the patient may formulate his or her request for care. These contrasting reference systems are behind many of the difficulties experienced by health workers and the population at large in achieving mutual comprehension. This is particularly true in the many countries in which the language used for scientific study (English or French, in most cases) differs from the language used by the vast majority of the population in everyday life. In this case, health-related dialogue requires many interpretations and adjustments between terms given in an African language, for instance, and others expressed in a scientific tongue, spoken in English. A dialogue of this type may then be described as the confrontation of two codes that classify diseases in different ways.

For this reason, certain conditions which are viewed as different by the medical profession may be considered by patients to be one and the same ailment. And conversely, various clinical signs defining a single medical syndrome may be divided into a number of different diseases by the population.

These diverging interpretations may arise from the inability to perceive the action of a single pathogen behind the variety of visible symptoms. The ethnic groups known as Zarma, or Djerma, in Niger, for instance, make a distinction between genital chancres (cantu) and the cutaneous expression (cirey) of syphilis. Similarly, pustules, vesicles and macules are generally designated by a single term - fiteize (little button). For the specialist, itching, which is truly a presenting sign, may suggest the possibility of various ectoparasitoses (scabies, head lice, pediculosis, etc.), endoparasitoses (oxyuriasis, anguilluliasis, onchocerciasis, etc.), skin diseases (urticaria, lichen planus, etc.) or systemic diseases. In Niger, in Zarma country, on the other hand, itching (kajiri) is believed to have a single cause which may produce a number of conditions, depending on how it is exteriorized.

*A villager tells us how this ailment is perceived : every body contains kajiri. If your blood calls for it, it catches you.*

*Another person speaks of the «transformations» of this same disease : kajiri is like little rashes. Sometimes it comes out on the whole body. In my case it started with itching on the hands and feet, then it entered my head and eyes.*

This popular classification may be shown as follows (table 1).

In this example, the expression «kajiri» is approximately co-extensive with the idea of itching. However, by contiguity and analogy it comes to designate lesions produced by scratching, then the copper-coloured spots, and may thus be applied to conditions such as leprosy, in which there is no itching. Translation is not simply a translation of terms, then, but it involves a linguistic and cultural transposition in which the complexities of the clinical

Table 1  
Ailments and popular definitions

| Cause of the disease               | Possible expressions of the disease                                                                         | Possible medical conditions                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Kajiri<br>(literally :<br>itching) | kajiri kayna (lit. : little itching).                                                                       | Scabies, eczema, etc.                                 |
|                                    | kajiri bero (lit. : great itching).<br>It is the great form of kajiri that cuts off fingers.                | Lepromatous leprosy                                   |
|                                    | kajiri laalo (lit. : serious itching).<br>This is a very dangerous kajiri that may produce leprosy (jiray). | Scabies, leprosy, urticaria, eczema, etc.             |
|                                    | kajiri biyo (lit. : black itching).<br>It simply produces black spots on the skin.                          | Dermatophytosis, dermatophytes on hairless skin, etc. |
|                                    | kajiri cira (lit. : red itching).                                                                           | Various skin diseases, secondary syphilis, etc.       |
|                                    | moo kajiri (lit. : eye itching).<br>The eyes itch and become painful, it turns the eyelids inside out.      | Conjunctivitis<br>Trachoma                            |
|                                    | korokoro : this is a kind of kajiri with spots on the head that destroy the hair.                           | Tinea                                                 |

forms of diseases are compounded by the complexities of popular interpretations. The Angbandi of Zaire, for instance, class skin diseases along different lines (Bibeau, p. 299) :

- nga poro because it is a disease (nga) of the skin (poro) ;
- nzibo because the skin of the sick person is similar to that of a certain kind of pig commonly found in places where the Angbandi do not live ;
- sara, meaning itching (sara) ;
- nga so because these skin diseases are believed to be caused by sweat (so) ;
- nga nzapa because this disease is interpreted either as natural or as caused by a spirit (nzapa) ;

- nga wa bi when the disease is believed to have a supernatural cause such as witchcraft (wa bi means man of the night).

In fact, although apparently a collection of miscellany, this classification operates a series of logical distinctions - based on location, resemblance, imagery, aetiology, treatment and sociocultural reasons -, although the criteria used to organize the pathological entities are not the same as those used in biomedical practice (pathological anatomy, symptomatology, etc.) (Bibeau, p. 300).

It is clear that at consultations, the medical approach is, rightly, scientific, and aims first at identifying the sickness corresponding to the symptoms, lesions, parts of the body, etc. For this reason, the care person may eliminate most of these linguistic ambiguities by simple observation, and identify the disease involved by transforming the «felt symptom» into a sign of a physiological reality.

However, health action is not confined to this strictly curative aspect. Upstream of the consultation, there are the problems of prevention and access to health services, and downstream there is understanding of and compliance with treatment. Familiarity with and understanding of the different interpretations of diseases is primordial for all of this public health action.

## **ACCESS TO AND COHERENT USE OF HEALTH SERVICES**

### **Comprehension of medical acts - informing patients**

In the medicalized relationship, patients are viewed, above all, as people suffering from and showing a disease, whereas the doctor, on the other hand, is in charge of identifying and treating that disease. Although this arrangement proves its efficiency, day after day, it nonetheless raises a number of problems. In particular, it is frequently observed that while visits usually end with the delivery of a proper prescription, they often come to a close, as well, with the departure of an uncomprehending patient.

This is because for the doctor, the prescription refers to a scientifically identified disease, whereas for the patient, it applies to a condition that is represented and named in his or her own language. In the previous example, if the disease is experienced as being kajiri, the prescribed treatment may logically be applied to any other disease classed under the same heading. Self-medication and the exchange of treatments between patients are based on the same interpretative logic. These practices, which are harmful both to health and to the credibility of the health system, are due to a faulty medical act : the object of a consultation is not simply a prescription, and the visit should also be taken as an opportunity to provide information and health education.

### **Popular aetiologies and treatment itineraries**

In popular belief, each disease perceived as such is connected with a cause, or at least with an interpretation. Despite their variety, these causal relationships, or «social aetiologies», are generally organized around a small number of reasons viewed as being the source of the problem (dietary imbalance, contamination by an animal, persecution by «supernatural» beings, aggression by a familiar individual, etc.). While it is often impossible, in oral



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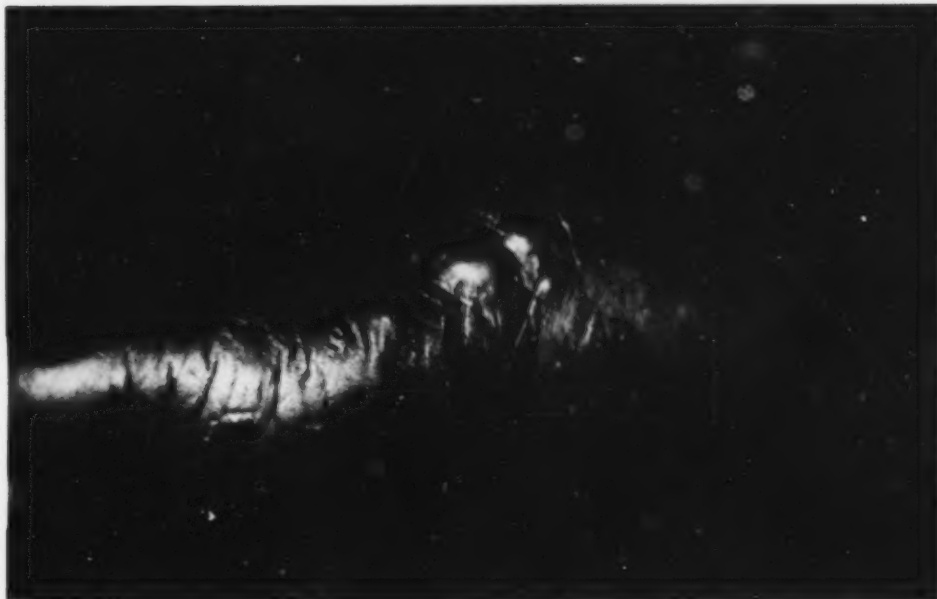
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traditions, to establish a strict correspondence between what is perceived as a pathological entity and an aetiology, familiarity with these interpretative systems is nonetheless essential, and must be put into practice during visits and health information sessions. Indeed, they affect the way in which patients use health services, as well as their compliance with treatment. This may be illustrated by what a Zarma peasant from the Niger valley has to say :

*"My sickness began on a place on my thigh. I was 16 at the time. When the can nwa ga cindi disease (lit : the mouse eats the rest, often corresponding to tinea or dermatophyte infection on hairless skin) began, we used pieces of pottery to scrape the spot. That didn't help. After that, I was told to take some milk from a cow who had dropped a female calf, to mix it from sand from a termite's nest and to apply the mixture to the spot. I did that, but in vain. Then, a medicine man slit a goat's throat. He told me to eat some, without crushing the bones, which he buried in a hole. All of those treatments failed. Some zima (people presiding over the Zarma possession ceremonies) said it was a disease caused by spirits (ganji). I was also taken to see a Peul who put some scarifications on me, with something in them. People were claiming that a curse had been put on me because I was an exceptionally good farmer. I spent two years on these treatments. It was some nurses who told me I had leprosy. My fingers had already fallen off".*

Village communities are actually not at all consensus-based, but rather, they contain a collection of many different kinds of "knowledge", which coexist. When endogenous, these are embodied in medicine men and the leaders of pagan rites, etc., while others are exogenous, and vehicled by monotheistic religions, hygienists, vendors of unofficial pharmaceuticals, etc. The interpretation of a disease is therefore generally the outcome of a real "conflict of interpretations", generating numerous attempts at treatment and health-oriented itineraries, which tend to be time-consuming, and therefore synonymous with increased seriousness.

## Health information

Health information is needed to alleviate these problems, despite its inadequacy, given the simultaneous existence of other problems, both economic and linked with the availability of drugs. While it is important to avoid dissociating the preventive and curative aspects during consultations or education-for-health campaigns, a few simple rules should be respected when transmitting medical knowledge.

As already pointed out, medical and popular descriptions of diseases very rarely coincide (with the exception of a few diseases involving distinctive, characteristic symptoms). Linguists express this by saying that their semantic fields are not isomorphic. It is therefore important to use symptoms as the starting point. An accurate description of the symptomatology, in the tongue of the patient or of the target community, is most helpful in avoiding the above-mentioned pitfalls of erroneous interpretation. When the health team and the population share one and the same language,

for which the body is the referent, or touchstone, they are sure to use the same words to designate the same things. For instance, since «itching» is a major presenting sign, agreement on a specific definition of the term may be reached, with subsequent addition of qualifying terms and differentiation in accordance with its location on the body, after which treatment and preventive action may be suggested. In most situations, this educational dialogue truly turns out to be a considerable effort at reorganizing local terminology and conceptions. In our example, a first educational session would work at assigning other meanings to the signifier «kajiri», depending on the most frequent location of the visible symptoms ; in fact, this involves comparing a local classification (table 2) with a «medical» nomenclature. This approach may be enormously facilitated by the use of «complaint/treatment» diagrams, to be found in various medical handbooks (such as Mazer and Sankalé, 1988) or in popular medicine books (Mazer and Sankalé, 1991). It is still up to the educator, however, to adjust training sessions to the specific prevailing linguistic and sociocultural context.

Table 2  
Medical and local classifications

| Presenting symptom | Location                                              | Medical term     | Content of curative and preventive messages                                                                                                                             |
|--------------------|-------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Itching            | Head (itching in some places only, or in patches)     | Tinea            | Treatment with iodized alcohol.<br>Use separate combs and brushes for hair-dressing ; the patient should wash his or her hands with soap, nails must be cut short, etc. |
|                    | Wrists, hands (between fingers), buttocks, breasts    | Scabies          | Antiscabies treatment. The entire community should be treated : clothing and bed linen must be boiled or placed in plastic bags containing Apheria for 4 days, etc.     |
|                    | Groin, skin of the scrotum, armpits, between the toes | Fungus infection | Treatment with iodized alcohol.<br>Avoid close-fitting clothing, wash with soap and water, expose bed linen to sunlight, etc.                                           |
|                    | Genital area, pubis                                   | Phtiriasis       | Use Apheria, etc.                                                                                                                                                       |

This same translation activity may be undertaken for spots, buttons, nodules, etc. It should be pointed out, however, that this newly acquired knowledge will not «eliminate» the old systems used to interpret disease, which provide answers to other questions such as the origin of the problem. Simply, this

indispensable effort enables local communities to dialogue with health teams, to operate distinctions among treatments which apply to seemingly similar diseases, and to understand the coherence of the medical approach, which occasionally requires the implementation of biological testing before a treatment may be prescribed and the continuation of that treatment once the symptoms have subsided, as well as the administration of care to apparently healthy individuals.

## PREVENTIVE ACTION

What is at stake here, however, is not only the individual's degree of information, understanding and will-power. An understanding of preventive measures does not automatically entail acceptance of these, nor the ability to implement them. Any change in behaviour necessarily involves an «invisible negotiation» (*in the words of Olivier de Sardan*) between a number of constraints (economic, cultural, ecological, etc.) and representations. Several of these, directly connected with the problems of dermatological ailments, will be discussed here. To do so, a shift is required from a normative conception of hygiene (the need to promote cleanliness, to combat overcrowding, etc.) to an explanatory attitude based on the understanding of behaviour and lifestyles, from the quantitation of people's acts to a study of the meanings attributed to these by the individuals involved. Even if other people are not necessarily right in acting in some specific way, the chances are that they have their reasons for doing so.

## Social definitions of clean and dirty

Health counselling with respect to dermatology concentrates mostly on questions of individual and collective hygiene. It necessarily operates distinctions, then, between what it views as «soiled», or «dirty», and what is «clean». Here again, each culture has its own particular way of discriminating between notions which might be translated by the English words pollution, dirt and impurity (*de Heush*). The meanings imputed to these terms must therefore be circumscribed to the specific cultural context and beliefs involved.

In Madagascar, for instance, «the field of hygiene is essentially structured by two terms : akata, an overall term designating all refuse and waste when there are no overtones of «moral» or «religious» blemish, and the term hâtiva, which may be very approximately translated by «sullied» (...). Basically, the trash that litters the area around homes does not really bother the villagers. They may consider removing it to make the place more attractive, or because of a demand by the authorities, but they are in fact indifferent to its presence. The same is not true of any rubbish that may have a «sully» effect (*Fauroux et al*).

Similarly, the Bambaras make a distinction between two terms meaning «dirt» : nògò (*saniya b'a la*, literally : it's a matter of cleanliness) and nyama (*fen juguba b'a la*, literally : it's a matter of «something bad»), one being inoffensive, the other dangerous. The same beliefs may be found among the Zarmas.

*Refuse is left on the outskirts of the village. Carts are used to collect it and spread it on the fields. Children play in the refuse,*

*however. This worries us, since the spirits (ganji) are often present around the refuse. The women avoid calling each other by their name in those places, in the evening, for fear that a spirit will hear them and take possession of them.*

When the semantic distinctions popularly operated in the continuum of «nuisances» are taken into consideration, a bridge may be thrown between the medical definition of hygiene and a social, cultural perception of order and cleanliness. This subjective, experienced meaning may account for many practices that have implications for health. In Bambara country, for instance, the presence of refuse on any path leading to the mosque would counteract the necessary purity of the person going to pray (a be seli ji tinyé, literally : it spoils the prayer water). The same concern is attested in Zarma country, in Niger, as well :

*The best-kept places are the mosques, which are swept up regularly. That work is done by women who have their menopause. There is also the area where the palavers take place, where the elders meet to talk. The owner is in charge of the upkeep of those places.*

Conversely, certain animal excrements are considered signs of wealth, attesting to the success of their owner. These excrements are not swept away, since they are supposed to favour reproduction within the herd. Similarly, children's faeces are not considered disgusting as long as they are not «hard» (denmisen bò don, a tè fen ke, literally : those are children's faeces, they don't matter). They are vaguely swept aside and buried in sand. In some cases of dental carie, they may be rubbed onto the teeth and gums.

As we see, the most commonplace «hygiene» is linked to cultural significations. In Burkina Faso, in Mossi country, for example, «a menstruating woman will sweep the house in the direction opposite to evacuation. The rubbish will be pushed from the doorway inward, and piled up on the farther side of the house (...)», as though there were a need to contain the dirt, or the impure blood which should have participated in fertilization and the gestation of a child to come (Poloni).

The same concerns preside over individual hygiene. For instance, bathing a child is not simply a matter of cleanliness, but of trust in the person who does the washing, as well. In Zarma country :

*It is the mother or grandmother, or her sister, who is allowed to wash the child. The person who washes a child must be trusted, because if a cerkaw (witch) is washing the child, she may take advantage of the situation to place her hand on his or her head and attack the biya (soul, or double).*

Similarly, washing schedules must be studied with reference to the system of beliefs prevailing in each particular context.

*Children may be washed at any time except at dusk and at noon, because of the heat. These are dangerous times, when spirits (ganji) are around.*

**The organization of  
space and the  
acceptability of  
preventive  
measures**

In fact, nothing is absolutely dirty, except in the eyes of the observer. M. Douglas, for instance, who looks at the question for society in general, claims that cleaning and tidying cannot be interpreted as negative acts, but rather, as a positive effort to structure a socially (and therefore arbitrarily) acceptable human environment : «when we clean up, we are simply reorganizing our surroundings - and this is a positive act - we make them conform to an idea» (Douglas, p. 24).

Social imagery with respect to cleanliness and dirtiness therefore constitutes a conceptual framework within which various practices are encountered. These most «commonplace» motions organize everyday life. For instance : «while one is struck by an impression of disorder in certain homesteads, a closer look reveals the utilitarian nature of all of the material that meets the eye of the visitor. The sorghum straw will be used to light a fire, the cardboard to prevent the steam from leaving the couscousier (...); the tendency to make use of anything that may be found in a courtyard is definitely in contradiction with some rules of proper hygiene, but nonetheless indicates a controlled appropriation of the environment» (Poloni). In fact, many rules defining the use and management of public and private spaces are hidden behind this apparent disorder.

*Each neighbourhood has its rubbish heap. Rubbish may be thrown elsewhere, but it should not be left in a place where there is no refuse heap.*

There is often a considerable gap between norms and practices, of course. However, this is essentially due to the obligation to cope with a number of sometimes contradictory social constraints, rather than to what people imagine to be «ill will». For one thing, age, social status and gender preside over the attribution of tasks.

*When a man is married, his wife can take care of his rubbish. But the unmarried men are obliged to scatter their own rubbish about. Only women are allowed to deal with rubbish, only they can pile it up.*

A place occupied by an unmarried man differs from that of a married man, then, not only out of personal choice, but above all because the former cannot perform certain acts without taking the risk of being laughed at by his peers. Other constraints are of a financial nature, and correspond to the concerns of a rural society.

*At present, people all want to keep their refuse at their doorway, so as to spread it on their field.*

In other words, what is at stake here is not simply verbal. A number of obligations affect the possibility of putting certain health-related recommendations into practice, and above all, of course, women's heavy work load.

*Women sweep up inside their homes frequently, but they rarely sweep the courtyard of the homestead. They are prevented from doing so by their many other tasks.*

## THE CONSTRAINTS INVOLVED IN TREATMENT

If we are to understand the hygiene-related practices of a community, then, we must discover, beneath the apparent uniformity of the concept of «rubbish», the many social laws prescribing distinctions between public and private spaces, allocating tasks on the basis of age and gender, defining places on the basis of beliefs. In fact, these few examples point to the fact that «the consideration of local norms is the first act in the dialogue required for the implementation of any health education programme : such a programme necessarily begins by listening to people, following which true communication may be established, through which there may adjustments between what the different protagonists have to say» (Epelboin, 1981).

Often the management of dermatological ailments such as scabies, impetigo, etc., involves a combination of individual treatment and collective measures. Here too, we are at the crossroads of necessary medical action and social habits. For instance, the apparent simplicity of the term «overcrowding» actually covers numerous practices in which - to take one example - the socialization of children is linked to sleeping customs, which are regulated by the norms of the community. The structure of a dwelling place reflects kinship relations, and defines each person's place on the basis of his or her age, gender and status.

*Children remain with their mother until they reach puberty, after which they move to the young people's room. As many as five children may sleep on a same mat. The man sleeps in his hut, but if his wife is «on duty» she joins him.*

These differences in status, which define local norms of conduct, may also affect compliance with a treatment. In the case where a health team faced with a scabies epidemic prescribes the application of a benzyl benzoate solution to all patients, people are obliged to do this in a way that is compatible with individual modesty, especially when itching is located around the genitals.

*Only children are brought to consult. A few old women dare admit that they suffer from kurusa kurusa (in Bambara language, scabies, itching). Older girls never say so. Adult men pay discreet visits to the health worker, in the evening, but this possibility is not open to young women.*

Still other constraints may be mentioned :

*Wood for a family costs 100 F CFA/day. In addition, children must be washed. The medication must be put in water, and clothing must be washed in hot water. Next, the clothing must be placed in plastic bags which in turn are left in a clean place, but we do not have any bags.*

In this real-life experience in a Malian village during an attempt to combat an epidemic of scabies, three proposals to promote health - avoid contaminating contacts, treat patients and treat their clothing and bed linen - came up against social and financial constraints. In their negotiations between the desire to be cured

## **PRACTICAL CONSEQUENCES**

and the obligation to comply with the rules of their community, people tend to «break down» (*Olivier de Sardan*) the advice presented by the doctor as «a coherent whole». For instance, they may apply the treatment, but will be unable to wash the clothing, etc. This results in failures which oblige the health worker to achieve a better understanding of how his or her health project partakes in a «social whole», so as to improve its efficiency.

This qualitative public health work applies essentially to two types of problems : informing patients about their health, and providing an explanatory accompaniment to those technical innovations which may improve the overall health status of the population. However, independently of the type of solution recommended, the implementation of preventive and curative action in the field of dermatology cannot be achieved without a dialogue with those people for whose benefit it is intended. This fact entails several consequences. Some apply mostly to the naming of symptoms and the representations of disease, whereas others have to do with the applicability of health-related recommendations. Observation and comprehension are most important requisites, prior to advancing any suggestions, if the problem is to be solved. This means that work must be done in a certain order.

### **Surveys**

Surveys are not simply a prerequisite to action, but above all, they should accompany it, so that health programmes may be adjusted to the choices and constraints of the groups involved (for example : the availability of soap, of clean water, etc.). This work should not be confused with the rapid distribution of a few questionnaires. It involves a serious effort at clarification, by questioning the different social groups affected by the development intervention. While concentrating mainly on symptoms, diseases and prevention systems (cf. survey cards), investigations should not be confined to these, since practices which, in the eyes of the doers, are not necessarily health-oriented behaviour, may well have an impact on health. This is the case of use of water, washing, sharing of objects used for washing up, sleeping practices, etc. It is important, then, to understand the coherence of the whole, so as to determine whether it may possibly interfere with the health-related advice given.

### **Communicating and training**

Training necessarily involves two-way communication. «A medical relationship is similar to an educational relationship, in many ways : there is no way to help John to recover without knowing John. And in the case of rural medicine, it is impossible to help the community to take better care of itself if we do not know the community» (*Pairault*). People in charge of training, then, should know how to analyse the data collected during surveys, so as to prepare appropriate educational material for use during sessions at which presentation of new knowledge - in the locally spoken languages - alternates with listening to the questions raised by this new information. «Complaint/treatment» diagrams, which must of course be adjusted to the specific context, are often a helpful educational tool, which utilize visible, bodily references and felt symptoms as a starting point.

## Evaluation

As a rule, health programmes are composed of a scientifically coherent body of advice and preventive measures. From the point of view of the community, however, the social costs entailed by different elements of these proposals are not at all the same (*Jaffré*). For this reason, people tend to select, distort, interpret, etc., the advice they are given, in accordance with their particular situation. This is a normal occurrence in the assimilation of innovations. «This rule will be of no surprise to western physicians themselves, since they are surely well aware that their patients never comply literally with their prescriptions, but make a selective use of them (adjusting both the medications themselves and the doses), depending on inclinations rooted in family traditions, the subcultures and informal networks of which they are a part, their financial constraints and lifestyle, etc.» (*Olivier de Sardan*). Given this overall picture, anthropology may be in a position to measure the responses of population groups and to explain how «the project went astray» between the planned objective and the actual achievement : in other words, it resituates it in an overall human framework.

In addition to the indispensable curative activities, the implementation of public health action in dermatology requires prevention of the causes of medical conditions, along with information of the population at large, viewed as the true actors in their health situation. In the absence of a veritable anthropological effort, treatment of patients will perhaps be feasible, but there is no guarantee that we will be able to ensure the well-being of a community.

**Table 1 : Standard card for terminology survey**

**Name of the disease :**

Noun/verb/adjective

**Location of place where the term was collected :**

**Translation or definition :**

a) **Popular understanding :**

b) **Diagnosis/felt symptoms :**

c) **Aetiology :**

d) **Seriousness :**

e) **Care :**

**Words associated :**

*(Taken from Baggioni and Diakit . Duplicate copy, undated, Universit  de Provence, Aix-en-Provence)*

**Table 2 : Example of a term studied : Bagi (leprosy)**

**Name of the disease : bagi**

Noun

**Location of place where the term was collected :** throughout Mandingo country.

**Translation or definition :** 1) nodular leprosy ; 2) by extension : pustular leprosy, lepromatous leprosy ; 3) by analogy : cloth, material.

a) **Popular understanding :** The disease designated by this term is viewed as a divine punishment on earth. It is believed that patients will enjoy divine mercy in the beyond, since, it is said, «no-one is burned twice».

b) **Diagnosis/felt symptoms :** People mention eruptions (buttons, nodules, thickening of the earlobes, which tend to close the auditory canal).

c) **Aetiology :** Contact with a salamander. A child conceived by intercourse with a menstruating woman is exposed to the disease.

d) **Seriousness :** Damaging to social status (the patient is rejected and isolated).

e) **Care (traditional) :** Drink a tea of boiled roots of the ponpopogolo (calotropis procera) tree, believed to cause diarrhoea which eliminates the internal effects of the disease. Recovery should ensue within a week at the best.

**Words associated :** banaba (euphemism : great disease), kuna (tuberculoid leprosy), kuru (button, nodule), wolo (skin), tulofara (earlobe).

*(Taken from Baggioni and Diakit . Duplicate copy, undated, Universit  de Provence, Aix-en-Provence)*

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## TREATMENT GUIDELINES AND ESSENTIAL DRUGS\*

### ANTISEPTICS

A limited number of inexpensive substances may solve most skin problems.

#### *Household soap*

Household soap (Marseilles soap or its substitutes) is only a very mild antiseptic.

#### *Potassium permanganate*

Potassium permanganate ( $\text{KMnO}_4$ ) is inexpensive and effective, and available almost everywhere. However, a clear explanation of how to prepare it is required prior to use, since it is caustic if insufficiently diluted. Recommended strengths range from 1/10,000 to 1/20,000 (that is, 0.25 to 0.50 g per 5 litres of water). It is possible, but more complicated, to make a mother solution, diluted to 1/1 000, for instance, which is then diluted to a tenth for use as needed. This antiseptic is particularly useful for bathing or applied on compresses (on scabby or oozing lesions, for example).

#### *Derivatives of iodine*

Derivatives of iodine are extremely potent. Tolerance of iodized alcohol is often poor. Povidone iodine (Betadine<sup>®</sup>) does not have this shortcoming, but it should not be applied over large skin surfaces in infants.

#### *Alcohol*

Use of 60° or 70° alcohol should be occasional at most, since it is poorly tolerated in most skin diseases. Its use should mostly be confined to cleaning wounds so as to avoid superinfection.

#### *Derivatives of mercury*

Derivatives of mercury (Mercurochrome<sup>®</sup>, Merfen<sup>®</sup>, Mercryl<sup>®</sup>, etc.) are often poorly tolerated, and above all, they should never be used in conjunction with iodized preparations, owing to the risk of severe burning.

#### *Staining agents*

Staining agents (eosine, fluoresceine, Millian's solution, etc.) have a low antiseptic power and are unnecessarily visible. They do retain some value, since they have a drying effect (useful in skinfolds or on oozing lesions).

### ANTIBIOTICS

Local antibiotherapy is hardly (and sometimes not at all) effective, potentially allergizing (in the case of neomycin) and suspected of developing resistant bacterial strains. It is never indispensable.

#### *Aureomycin ointment*

Aureomycin ointment (1 and 3 %) is on the essential drugs list, and is valuable because of the oily vector to which it is bound (when applied to scabs, it facilitates their elimination).

Silver sulfadiazine is also well tolerated, especially in burns.

#### *Derivatives of penicillin G*

Two groups of antibiotics suitable for systemic use are indispensable : the derivatives of penicillin G (oral forms, penicillin V or slow-release forms, benzathine penicillin) and macrolides (erythromycin). The former are effective against streptococci with a skin tropism, which prevail in erysipelas and to a lesser extent in impetigo. Macrolides are effective against many types of staphylococcus aureus as well, which makes them the reference cutaneous antibiotherapy, but at a higher cost.

#### *Macrolides*

\* by A. Mahé

## ANTIFUNGAL AGENTS

### *Miconazole*

The other preparations are valuable in some cases, and may even be uniquely so, but their cost considerably restricts their use. This is the case of group M penicillin (methicillin, oxacillin) and of the synergystines (pristinamycin), which are major antistaphylococcal agents. Sulphamides, be they topical (eczemas develop in contact with neomycin) or systemic, are of no help in dermatology.

Although quite expensive, today's antifungal agents are indispensable, in our opinion. It is rarely absolutely necessary to treat a fungus infection of the skin, however. Miconazole cream is as good as any other product on the essential drug list, and is effective against dermatophytes, candidiases and the agent of pityriasis versicolor. For fungus infections in skinfolds (between the fingers or toes), it is important to combat maceration (dry the areas following washing) and superinfection.

### *Whitfield's ointment*

Whitfield's ointment (salicylic acid : 2 g ; benzoic acid : 4 g ; vaseline : 24 g) is very popular in the English-speaking world, especially for fungus infections between the fingers or toes.

### *Griseofulvin*

Given the health situation currently prevailing in developing countries, and the excellent prognosis attached to most linea infestations (with the exception of favus), it is out of the question to recommend systematic treatment of linea. In case of a decision to treat tinea of the scalp (at the request of the family, or in case of favus), oral griseofulvin should be given for 4 to 6 weeks (10 to 20 mg/kg/day in two divided doses, during meals). Some writers have recommended massive «instant treatment» of linea (by intake of a single 1 to 1.5 g dose, for instance), but there is no published evidence of the possible effectiveness (poor, in our opinion) of this technique.

## LOCAL CORTICOTHERAPY

When the prescription is appropriate (in atopic eczema), local corticotherapy is irreplaceable. However, topical corticosteroids should be used with caution ; they are formally contraindicated when there is a local infection, for example. In tropical settings, we suggest that they be practically systematically given in conjunction with an antiseptic.

The pharmaceutical form depends on the type of lesion and on its location. Creams are polyvalent, while use of ointments should be restricted to extremely dry lesions. Lotions are indicated in oozing lesions, or for application on the scalp and in skinfolds.

Topical corticosteroids are divided into four classes, I to IV, the most powerful being class I. Class I (clobetasol propionate) is not commonly used. Classes II (betamethasone) and III are the most usually prescribed. Class IV (hydrocortisone acetate) is indicated for the face or for minor lesions. If only a single form is available (generally, class II), it may be diluted in an excipient (vaseline, which transforms creams into ointments). The combination of a corticosteroid and an antibiotic (usually neomycin) or an antifungal agent (Mycolog<sup>®</sup>) within a single preparation is of no interest, and increases the risk of sensitization as well. To avoid rebound flares,

especially in chronic skin diseases, corticosteroid treatment should be tapered as follows : twice a day at first, then, a few days later, once a day, then every other day, twice a week, etc.

## ANTIPARASITIC AGENTS

*Benzochloryl*

*Lindane*

*Crotamiton*

*Sulphur*

These are, above all, antiscabies agents. Aside from benzyl benzoate, which has been described in detail in the chapter on scabies, and which is most preferable, in our opinion, there are other effective agents. Benzochloryl® is one of these ; however, it contains DDT, and its use should be restricted. It is disadvised for children and pregnant women. Lindane is widely used in English-speaking countries, but is potentially toxic for children and pregnant women : a 12-hour application often suffices. Crotamiton (Eurax®) is too expensive to be used for scabies, but is useful in the symptomatic treatment of itching and more generally of all skin diseases that produce itching. Balm of Peru causes allergy and is not very effective. Sulphur, diluted to 2 to 10 % in an excipient, should be rediscovered, owing to its very low cost. One way of preparing it is : sublimated sulphur (5 to 10 g), oil of vaseline (10 g), vaseline (80 g). This preparation should be applied on three consecutive evenings.

## ANTI-HISTAMINES

Topical antihistamines (such as Phenegan® cream) are never indicated. Furthermore, they often cause allergic reactions (to sunlight).

Systemic antihistamines are widely used, but often represent an easy way out. It is preferable to make a diagnosis pointing to a specific treatment rather than to simply resort to them when faced with «unexplained itching».

In addition, these substances are only really effective in urticaria, for which they are the symptomatic treatment of choice. A number of preparations are available, including dexchlorpheniramine (Polaramine®) and hydroxyzine (Atarax®). The oral route is preferable. The more recent products are not as sedative, but their use is restricted by their price.

## MISCELLANEOUS SUBSTANCES

*Zinc oxide paste*

Zinc oxide paste is recommended for inflammatory lesions (such as eczema) when application of corticosteroids is undesirable. The formula for 100 g is as follows : zinc oxide (25 g) + talc (25 g) + glycerin (25 g) + water (25 g). Its disadvantage is that it is rapidly contaminated, and a fresh preparation must be made every ten days.

1 to 2 % aqueous silver nitrate solution has a strong drying effect.

*White vaseline*

White vaseline is our reference moisturizer for the skin.

*Dalibour ointment*

Dalibour ointment may usefully be applied to dry, scabby lesions. Salicylic vaseline (at 5 %) is a recommendable pharmaceutical preparation for desquamating lesions (psoriasis), especially those located on the palms and soles.

*Symptom-correctors*

Symptom-correcting agents are suitable for use in psoriasis and lichenifications. Ichthyol (a 1 to 5 % concentration in vaseline) is generally well tolerated and its use is widespread. Anaxeryl® is

available in Africa. This is a mixture containing powerful symptom-correctors, and is frequently poorly tolerated, especially when used improperly, on superficial skin diseases. Calamine lotion soothes itching, as does crotamiton. Ointment containing 10 % urea (urea : 10 g, vaseline : 100 g) has a hydrating effect (for dry lesions and ichthyosis).

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## THE RESPONSIBLE COMMUNITY\*

Skin diseases are typically a problem keenly perceived by the population but overlooked by public health professionals. Indeed, to our knowledge, the developing countries do not have any programmes to combat skin diseases, with the exception of leprosy, which is usually not broached from the dermatological viewpoint. Essentially, a health problem becomes a public health problem when :

- it has a high prevalence and/or incidence ;
- it is connected with a high mortality rate ;
- it has a high economic and social cost.

In the previous chapters, we have pointed out that very little is known about the epidemiology of skin diseases, and furthermore, that policy-makers are quite unaware of these problems. And yet, the rare surveys conducted on sample groups in developing countries have revealed the extremely high prevalence of certain skin diseases (such as scabies, pyodermitis and tinea). It is a fact that these common skin ailments do not cause many deaths, although a link has been evidenced between pyodermitis and some kidney diseases. The economic and social costs of common skin diseases have never been evaluated, but they are probably relatively high. The severity and extent of scabies and pyodermitis lesions in developing countries class them among the frequently disabling diseases (through functional discomfort connected with intense itching, superinfections, etc.) and they are also a source of secondary complications in undernourished individuals. Last, these conditions are an object of great concern among the population at large, as shown by the high proportion of health-care consultations motivated by skin diseases, by the fact that people resort frequently to numerous, varied therapeutic techniques, and also, by the requests formulated by people during surveys of their health needs.

It seems important that these requests receive a response. There is no universally valid answer to them, of course, and the solutions must be adjusted to specific national and regional contexts. To a large extent, public health dermatology remains to be invented. Given the limited resources available in developing countries, a three-phase plan, based on training of health personnel, provision of essential drugs and health education seems reasonable.

Dermatology has never been perceived as a high-priority field, and this is reflected in the curriculum of training programmes for various health agents (ranging from village health agents to nurses, midwives and physicians). Training and/or refresher training of health agents is required before any action may be visualized. Such training should be extremely practical and should focus on the main skin conditions. Its adjustment to the level and responsibilities of the participants goes without saying.

### PLAN FOR ACTION

#### Training health personnel

\* by A. Prual and  
A. Mahé

The objectives of these different training programmes are listed below.

*Health agents*

Village health agents should be able to :

- diagnose scabies, pyodermitis, tinea and pediculosis ;
- treat cases of scabies, using benzyl benzoate ;
- prevent pyodermitis, using prophylactic antiseptics of open wounds ;
- treat minor pyodermitis, using antiseptics ;
- treat lice with lindane powder ;
- refer cases of severe pyodermitis.

*Nurses and midwives*

Nurses and midwives should be able to :

- diagnose the four above-mentioned skin diseases ;
- treat cases of scabies using benzyl benzoate ;
- detect a scabies epidemic ;
- manage a scabies epidemic ;
- prevent pyodermitis using prophylactic antiseptics of open wounds ;
- treat minor pyodermitis using antiseptics and severe pyodermitis using antibiotics chosen among the essential drugs (two classes of antibiotics) ;
- treat lice with lindane powder ;
- treat tinea with griseofulvin ;
- inform people about the necessary preventive measures (body hygiene, collective hygiene, early care, etc.).

*Physicians*

Physicians should be able to :

- do all of the above ;
- train and supervise health agents in the sector of which they are in charge ;
- diagnose all common skin diseases ;
- manage common skin diseases ;
- refer cases when necessary ;
- dispense popular education on hygiene.

## Availability of essential drugs

Essential drugs for use in dermatology should be available at all levels of health care. Health agents must imperatively receive training on how to use them.

Four groups of essential drugs are required :

- topical antiseptics : potassium permanganate, povidone-iodine ;
- antibiotics : slow-release penicillin, erythromycin ;
- antiparasitic agents : benzyl benzoate, lindane powder ;
- antifungic agents : miconazole, oral griseofulvin ;
- the use of topical corticosteroids requires further clarification.

## Health education

Whatever the prevailing health system (essential drugs given free of charge, price covering cost, or other), village health agents should be able to avail themselves of these substances.

Hygiene, as well as social behaviour, both play a prominent role in the transmission of common infectious skin diseases. Scabies, on the other hand, is not connected with individual or collective hygiene, but with crowded living conditions and poverty. Health education aimed at controlling this endemic condition should inform people about how it is transmitted, how it may be treated, and how epidemics may be prevented by the early treatment and isolation of cases. Pyodermitis is linked to individual and collective hygiene, to a lack of cleanliness in some traditional practices, along with overcrowding. Its severity depends on how early it receives care, as well as on the terrain (malnutrition, etc.). The population should be given counselling on hygiene and information on treatment possibilities.

We have placed health education in the third phase, because much time and effort is always required to achieve changes in behaviour, and also because the duty of health services is, first and foremost, to respond effectively, and at a low cost, to needs.

The plan for action proposed here is based on scientific findings, on the writers' experience with skin diseases in developing countries, and... on common sense. It is definitely open to criticism and incomplete, but it has, at least, the merit of being the only proposal available, to the best of our knowledge. It is our hope that it will kindle a debate on a problem that is of great concern to the populations of developing countries, and that it will be studied, tested and, finally, improved.

## CONCLUSION

As a result of their extremely high prevalence and the considerable discomfort generated by some of them, skin diseases may be viewed as an authentic public health problem. Furthermore, if the health structures were able to provide an effective response to their demands in this field, this would have a positive impact on the population groups concerned, and that in itself is a non-negligible benefit, since it is all too rarely the case at present. We have always received an enthusiastic welcome during our work in villages, and especially so in those faced with an epidemic of scabies ; this is highly beneficial with respect to the perception of and confidence in western-type medicine.

Quite luckily, most of the skin diseases encountered come under a very few diagnostic headings, are easy to recognize and require relatively simple care. Common dermatology need not be attended to by dermatologists, few of whom, it should be emphasized, work in developing countries. It seems most important that all health agents be taught the basics of common dermatology, which may easily be made a part of their training programmes, at a low cost, in terms of time in particular, and hopefully, with worthwhile returns.

It is our hope that this little handbook will contribute to the effort at training.

# TECHNICAL NOTE : SCABIES

## Main points for diagnosis

- itching in family members
- characteristically affects the following locations : buttocks, interdigital spaces, wrists, penis (men and older boys), areolae of the breasts (women), palms and soles of feet (infants). Sparing the head

## Diagnostic traps to be avoided :

- pustules on the palms of the hands and soles of the feet in infants
- impetigo affecting the buttocks, hands and penis
- "clean people's scabies", where signs are discrete

## Differential diagnosis

- onchocerciasis
- trial treatment with benzyl benzoate is definitely recommended, especially when itching is a collective phenomenon

## Treatment

- benzyl benzoate (10 to 20 % solution) on the whole body, except the head : should not be removed for 24 hours in adults and children over age two years, and 12 hours in children under two (no washing during the treatment period, or if washing is necessary, apply the medication again on the washed areas immediately afterward). All family members, including those who do not experience itching, should be treated simultaneously
- alternatives to benzyl benzoate : Lindane (beware of toxicity in infants, in whom applications should not exceed 12 hours, and in pregnant women, for whom it is contraindicated), sulphur (5 % in vaseline, applications on three successive evenings : possibly irritating)
- wash undergarments worn on the days previous to treatment. When possible, powder clothing and bedclothes with lindane, leave it there for 24 hours
- in case of superinfection : begin with treatment of the pyodermitis, then apply benzyl benzoate several days later

## Course following treatment

Itching disappears in a few days

## Avoid

Repeated applications of an antiscabious treatment in case of "resistant scabies". A single application cures 90 % of cases, and two applications at a 24-hour interval practically 100 %. If the signs persist after two applications, another skin disease is probably involved, or the symptoms are produced by irritation caused by the treatment.

## The key to success

Treat all family members

# TECHNICAL NOTE : IMPETIGO AND IMPETIGINIZATION

## Diagnosis

More or less frequently present :

- yellowish crusts
- soft, superficial bullae
- persistent ulceration of the lower limbs
- pus (look under any suspicious crusts)

## Detection of serious cases. Signs :

- fever
- adenopathy
- impaired general health
- profuse lesions, deep extension ("ecthyma"), necrotic or suppurating areas ("cellulitis")

## Keep in mind

- possible underlying scabies

## Differential diagnosis

- where endemic : leishmaniasis (on uncovered places, painless lesions with raised edges, protracted course)

## Treatment

- antiseptics (1/20,000 potassium permanganate solution, povidone iodine, etc.)
- in case of signs of a severe case or failure of topical treatment, consider systemic antibiotherapy, using erythromycin (30 mg/kg/day for five to seven days) or oral penicillin V or intramuscular benzathine-penicillin (a single injection of 600,000 to 2,400,000 U adjusted to body weight), depending on the availability of drugs and of disposable material for injections
- on the crusts : ointment (Dalibour, aureomycin)

## Errors to be avoided

- application of an antibiotic powder removed from its dosage form (powdered form of any of the cyclins, or penicillin, etc.)
- application of topical corticosteroids
- use of expensive antibiotics when equally effective products are available in INN form

## Prevention

- antiseptics of all open wounds

# HOME IDENTIFICATION OF DISEASES : THE HEALTH SYSTEM AND THE DECISION TO SEEK CARE\*

## INTRODUCTION

«Disease and its treatment are not purely biological processes except in an abstract sense... the very fact that a person does or does not fall ill, the kind of disease he or she catches and the nature of the care received, all depend on social factors» (1).

This statement now seems obvious to a great many people working in the field of health, and especially for those who are intent on reaching a better definition of those social factors involved in medical care for children.

And yet, in the 1940s, when Ackerknecht, a physician, first published his ideas on the factors contributing to disease, the medical world - in the United States, in any case - was increasingly under the sway of the new medical techniques, and by the enormous advances in biology, leading to improved control of disease, and especially of infectious diseases. The science of medicine was triumphant, and it seemed, at the time, that the responsibility of physicians could be defined as the strict application of the increasingly accurate findings uncovered by biology and pharmacology in their combat against disease.

However, Ackerknecht's point of view came to seem increasingly relevant, as investigations, especially those focusing on population groups and often conducted by epidemiologists, revealed the existence of morbidity and mortality rates that coincided closely with the splits within those populations, following the lines of socioeconomic status, ethnic group, and even gender. This may be illustrated by a very simple example, such as the figures for mortality in different occupational categories in France, shown in table 1.

Table 1  
Infant mortality rates in France (1970-72) according to the father's occupational category

| Occupational category                       | %    |
|---------------------------------------------|------|
| Professionals, junior and senior executives | 11.6 |
| White collar workers                        | 14.7 |
| Business owners, manufacturing and trade    | 15.0 |
| Foremen, skilled workers                    | 16.2 |
| Farmers, self-employed                      | 15.2 |
| Semi-skilled workers                        | 19.0 |
| Farm hands                                  | 19.8 |
| Unskilled workers                           | 25.7 |
| France, overall                             | 15.9 |

Source : Dinh Q, Hemery S. *Disparités régionales de mortalité infantile. Economie et statistique. INSEE, janvier 1977 ; 85 : 3-12.*

\* by Jon COOK

A second example of the impact on health of social facts comes from Bangladesh, where family composition has been shown to have a considerable influence on infant and childhood mortality in girls. Girls who have an older sister run a higher risk of dying before age 5 years than those with no older sister, while the risk is much higher for both of these groups than for boys (see table 2).

Table 2  
Percentage of excess mortality among 6 month  
to 5 year-old girls, in comparison with boys of same age

|                            |        |
|----------------------------|--------|
| Boys                       | —      |
| Girls                      | 54.2 % |
| Girls with no older sister | 14.5 % |
| Girls with older sister    | 84.3 % |

Source : Muhuri P.K, Preston S.H. *Effects of Family Composition on Mortality Differentials by Sex Among Children in Matlab, Bangladesh*. In : *Population and Development Review*. 1991 ; 17 (3) : 431.

The mechanisms at work in both of the above examples are less well known than the mortality rates, however. It is not easy to accurately pinpoint certain value(s) and behaviour as the «causes» of this mortality differential. And yet, no prevention programme can hope to succeed if it does not take these social factors into account.

The general factors that seem to play a role in the health status of a population group may be shown in diagram form (figure 1), which depicts them separately, although they are mutually interactive.

Second only to biological adaptations (including the immune

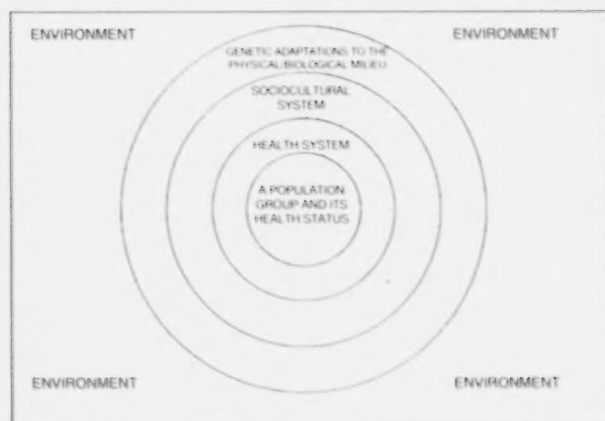


Figure 1 : A group, living in a given physical and social environment.

system, physiology and physical adjustments) in importance for survival in the physical and biological environment, the most important factor for human beings is their sociocultural system, which represents all of the non-biological adaptative mechanisms utilized by a society. These are the «social facts», which serve as «mediators» between a group and its environment, so that it may draw from the latter the resources necessary for its subsistence and protect itself from aggressions coming from that very same environment. While the

## THE HEALTH SYSTEM

sociocultural system enables people to survive in their environment, the health system is a specialized secondary unit within this system, composed of individuals, ideas and activities, whose role it is to constitute an additional protective shield between the population and its environment. By doing so it responds to the specific threat of disease - as perceived and defined by that particular group - and therefore affects its biological adaptation.

I will confine my discussion to the presentation of a model for health systems and recourse to care, with emphasis, nonetheless, on the considerable influence of health systems on morbidity and mortality within a population group (the example of the decline in the prevalence of tuberculosis in the western world, prior even to the utilization of effective preventive and therapeutic medical means, is an indication of the extent to which social facts external to the health system affect the health of a population).

Health systems vary considerably in composition and complexity from one society to another. Until recently, there was a tendency to view all health systems as similar, and composed of two broad groups of actors : professionals of the biomedical sciences and traditional practitioners (figure 2).

Depending on the society studied, one or the other of these two groups was seen as dominant in health-related activities. Sometimes the two sectors were imagined to be in stiff competition for the confidence of patients. In affluent societies, biomedicine has definitely won out against traditional medicine, except for a certain number of problems for which the care provided by the former is inadequate.

In recent years, however, social science researchers have discovered indications that a health system is in fact more complex than the diagram shown in figure 2. The case study described below, taken from a research project on recourse to health care by an immigrant population in the United States, will illustrate this.

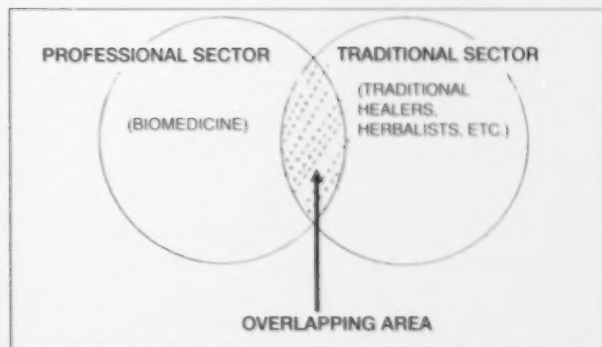


Figure 2 : The conventional representation of the health care system.

*An unmarried mother brought her one-year-old child to the emergency department of the city paediatric hospital, late at night, with bumps on the head and fever. While the baby was being examined, the mother had the impression that the nurse was angry with her, and was reprimanding her. She felt that the nurse was being brutal when rubbing the child's head. When the mother was told that the child required emergency hospitalization, in order to open the abscess and analyse*

the cause of the illness, she panicked and fled the emergency room, taking the child with her. The hospital reported the woman to the police, who were unable to locate her. The mother was therefore reported to the Child Protection Department, and identified as «negligent»: this agency was requested to send agents to the mother's home, so as to return the child to the hospital.

After leaving the emergency room, the mother returned home, where she and her older sister continued to administer remedies - already tried before her visit to the hospital - to alleviate the fever (shampooing, a moist hairnet on the head, to calm the fever). On the following day, they took the child to a traditional healer, who rubbed the child with red Cordyline leaves dipped in cool water, to bring the fever down; she also put an ointment on the abscesses. The child was still ill two days later, when the agents from the Child Protection Department escorted the mother, her sister and the child to the hospital, under the threat of a lawsuit. The mother was still panicked, but finally accepted hospitalization for her child, following a lengthy explanation by the consulting physician of the medical reasons behind the decision.

Later, in our interview with the mother, she explained that she had run away because she was afraid that the safety of her child was threatened. She described her impressions of the nurse's attitude, mentioned above, and said that she had thought that since the nurse seemed angry, she might mistreat her child, and it would therefore be preferable to leave the hospital. Her concern for her child's health, which had led her to the emergency room, had in fact been heightened by her interpretation of the attitudes and behaviour of the nurse, who had probably simply scolded the mother for not having brought her child in sooner (2).

As seen in the above case study, activities geared to caring for children's health are not confined to the two sectors - traditional and professional - within the health system: in fact, much of this activity took place elsewhere, essentially within the home. These activities were not restricted to first aid, but, more important still, they involved assessment of the child's health status and decisions pertaining to recourse to care-givers, both of which are primordial in taking care of an ailing child. However, it is not easy for health professionals to gain access to the events occurring outside of their own places of work, just as it is not easy for patients to comprehend biomedicine through their personal contacts with health personnel at consultations. This situation may be depicted by two diagrams of what may be referred to as «the icebergs of disease and of the health-care system».

In the first case, all of the underwater part of the iceberg cannot be directly observed by the health personnel, and is only accessible through what is told by the patients and their families. This information, represented by various symbols in figure 3, includes such elements as the family's general lifestyle, including its dietary habits, its schedule and availability for preventing and treating

disease in its members, its self-medication practices, its social and supportive network, the educational level of its members, housing, financial resources and means of transportation for bringing a patient to see health-care workers.

An equally important element, but one which is much more difficult to depict, is how a particular disease is experienced by the patient and the family, as well as their experience during previous, similar illnesses. All of these factors may play an essential role in the way a family reacts to disease.

Similarly, the scientific, organizational and functional aspects of biomedicine are all concealed from patients and their family, to a large extent, and they only see the personnel and the care and hospitalization facilities (figure 4).

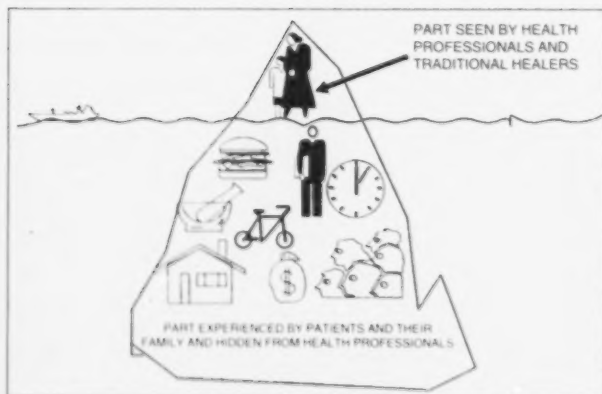


Figure 3 : Iceberg of health and disease.

Under these circumstances, the quality of communication between the various actors (personnel, patients and families) is all-important if everyone is to comprehend the nature of the problem and how it may be solved. Achievement of a representation of the health system in which the hidden parts of these two icebergs are taken into consideration required reworking of the model of the system ; this has been done by several writers. Figure 5 illustrates one such approach (3, p. 50).



Figure 4 : Iceberg of the professional sector.

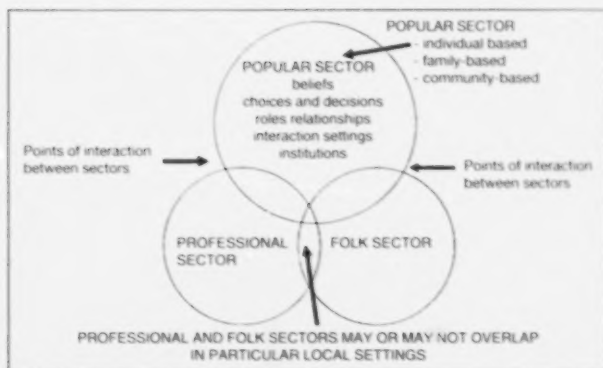
Kleinman views the health system as being composed of three rather than two sectors, the most important of which is the popular sector. It may be visualized as a matrix with a number of stratifications : the individual, the family, the community and the social network. Each level has its own beliefs and activities. This is the sphere of popular, «lay», non-professional, non-specialized culture, in which the patient is first identified and defined, and where curative and preventive activities are initiated. On the

basis of population studies and observations (and not in a clinical setting) conducted in the United States and Formosa, Kleinman estimates that somewhere between 70 % and 90 % of all episodes of disease are cared for within the popular sector only (3, p. 50). When people turn to the other two sectors, their choices are anchored in the conceptions and values of their own popular culture.

In this figure, the different sectors are approximately identifiable by the study of what is known as the explanatory models for disease, as well as by the study of the behaviour of the individuals who refer to each model. Patients and practitioners of all health systems possess explanatory models for episodes of disease. The different actors in the system rely on these models when they operate their choices between the various treatments and therapists available for solving any given health problem and, possibly, for preventing other episodes. Their choices are affected by the qualities of the actors and by the possibilities and constraints imposed by the physical, socio-economic and technical environment in which they are located.

Explanatory models attempt to provide answers to five main questions :

- the signification of the time and way in which symptoms develop ;
- the aetiology of the problem ;



- the pathophysiology (in what way does the disease act on the body ?) ;

- the course of the disease (including the severity of the case as well as the patient's behaviour : acute, chronic and disabling problems, etc., each foster specific types of behaviour, depending on the sociocultural context) ;

- appropriate treatment (and, by extension, the identity of the people who are in a position to apply this treatment).

Following to Kleinman A. *Patients and healers in the context of culture*. U. Cal. Press, Berkeley, 1980, 427 p.

Figure 5 : Local health system : internal structure.

Explanatory models vary inasmuch as they attempt to

provide answers to all of these questions, or only to some of them. And although the structure of these models is quite similar from one sector to another, the content of the models varies enormously in different societies, classes and cultural groups. In figure 5, the overlapping parts of the three sectors represent the conceptions and practices shared by these sectors. The size of

these shared areas obviously varies with the societal and historical context.

One might think that health care for the public is organized by the professional sector. But as a rule, it is the people themselves who take the initiative of care, by making their own decisions, based on their own explanatory models and on the possibilities offered by their environment in the following fields : When and who should one consult ? Should the prescription be followed ? When should a treatment be replaced by another one ? How effective is the care received ? Is the quality of the care satisfactory ? In this sense, it is the popular sector that functions as the main source and the most immediate determinant of health care (3, p. 51).

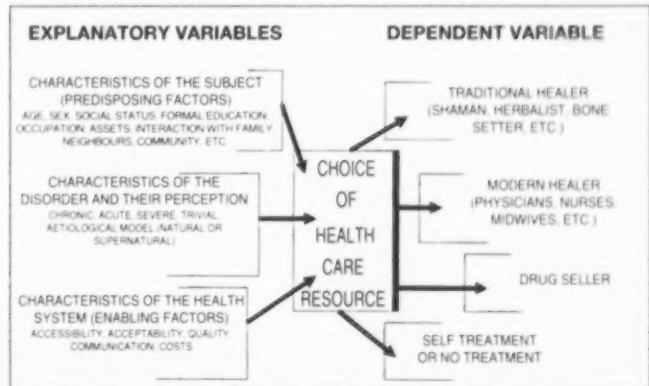
Prevention-related behaviour is also managed within the popular sector : even more so, in fact, than curative behaviour. It is important to examine those conceptions pertaining to prevention that are implicit in the explanatory models, hidden behind the causes invoked, but also to give thought to the causal links, in people's minds, between health and several domains of daily life activity such as nutrition, clothing, hygiene-related behaviour (mediated by cultural conceptions of contagion, contamination, cleanliness and dirt), and even morality.

## RECOURSE TO HEALTH CARE

### Characteristics of the patient

We have repeatedly referred to the important role played by both the characteristics of the actors and the nature of the environment in which they live, in the ability of patients to act, when faced with disease. A great many variables are involved in recourse to care, then. Kroeger (4) has used several of these variables to construct a model in which they are structured in three broad categories (figure 6).

The characteristics of the patient, and, in the case of ailing children, the characteristics of the person who makes decisions for



Following to Kroeger A. *Anthropological and Socio-medical Health care Research in Developing Countries*. Soc. Sci. Med. 1983 ; 17 (3) : 147-161.  
Figure 6 : The choice of healer in relation to various possible explanatory variables.

## Characteristics of the problem

## Characteristics of the health system

the patient : age, gender, marital status, social status, family size, ethnic influences, modern lifestyle, educational level, occupation, assets (land, money, etc.), innovative attitude, social interaction with the family, neighbours and the community, etc.

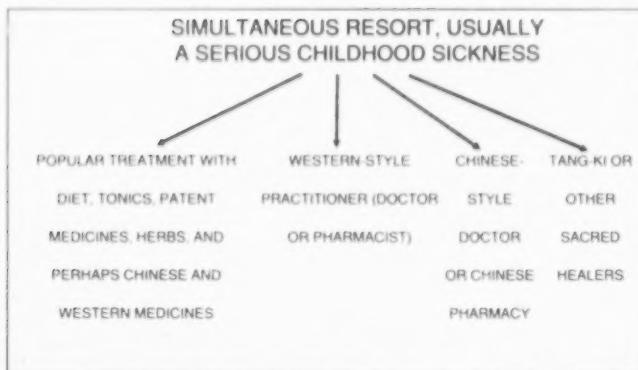
The characteristics of the problem (chronic or acute, serious or benign), and above all, the way in which the actors perceive these characteristics, which depends on the explanatory models applied to the disease and the expected benefits to be derived from the different treatments available.

The characteristics of the health system (in the broadest sense of the term) as they are perceived and experienced by the patient or his/her family : geographic accessibility (distance, availability of means of transportation), financial accessibility (cost of services, cost of drugs, insurance, etc.), attractiveness of the services offered, acceptability of the interventions, perceived quality of care, communication between patients and personnel.

These explanatory variables are mutually interrelated. For example, a family belonging to an ethnic minority group, with a child suffering from a chronic but not too serious disease, may tend to consult a traditional healer rather than a modern care-giver, especially if the cost is lower and if the family is not very affluent. Other variables may of course play an all-important role : the explanatory model of the family decision-makers may exclude any recourse to a traditional healer, for instance, or the family may be on bad terms with its usual healer.

The case study described above illustrates the influence of the perception of the problem on recourse to health care, since the two sisters, who felt that they were faced with an emergency, tried every available resource practically simultaneously.

Kleinman gives us another example of this type of recourse, which he calls "Simultaneous recourse", in his research on Formosa (3, p. 188) (figure 7). In this study, it is also the feeling of urgency that prompts parents to resort to several resources at once : treatments at home with whatever remedies are available there, consultation of a variety of specialists (physicians, pharmacists and traditional healers).



Following to Kleinman A. *Patients and healers in the context of culture*. U. Cal. Press, Berkeley, 1980, 427 p.

Figure 7 : Simultaneous resort, usually a serious childhood sickness.

## CONCLUSIONS

One major objective of medicine, where children are concerned, is the reduction of problems of the type described in the above case study, which are obstacles to the care and management of ailing children. A look at figures 3 and 4 shows that two courses of action seem promising in this perspective :

- training health personnel to recognize the existence and contents of the underwater part of the «Iceberg of health and disease» : that is to say, teaching them about the behaviour, experience and perceptions of their clients with respect to disease, outside of any medical context ;

- informing and educating the public of health service users about what those services within the professional sector are actually doing and why they go about it as they do - which represents the underwater part of the iceberg shown in figure 4.

The point of departure for preparation of the contents of these two sides of the action should be research programmes studying the population, on the one hand, and the personnel and care-giving institutions on the other hand. The ultimate goal of this research should be to make the contents of the various sectors of the health system explicit (cf. figure 5), so that all of the actors involved may react intelligently to the aggression represented by disease.

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## DID YOU KNOW...

### International Nathalie Masse Prize

Doctor Nathalie Masse headed the teaching department of the International Children's Centre for 18 years, until her death in 1975. Her contribution to the well-being of children throughout the world was of inestimable value.

Within months of her demise, a large gathering of individuals, institutions, collaborators, students and friends set up a Memorial for the perpetuation of her memory and of her work in favour of children. Thanks to a generous donation of the ICC Friends Association, this Memorial has been able to take concrete action, in the form of two annual awards :

- an award for the best dissertation (10,000 FF) written at the end of the «Mother and child health» course. This course, known as the «Social paediatrics course» at the time of its creation by Dr. Nathalie MASSE, is delivered annually at the ICC ;
- the International Nathalie Masse/International Children's Centre prize (50,000 FF), the purpose of which is to reward a candidate, under age 50, who has accomplished some noteworthy effort in favour of disadvantaged children, singly or at the head of a team, preferably in a developing country, and irrespective of the specialty involved in the work.

Applications must be sent to the Secretarial offices of the Memorial, either directly, together with the approval of an official agency (tutelar authority, government agency, etc.) or through an international organization (WHO, UNICEF, etc.) or an ICC official (member of the Executive Board, the Technical Advisory Committee, the Scientific Committee or the head of a department).

Applications, submitted in three copies and written in French, English or Spanish, must include :

- name, date and place of birth and address of the candidate ;
- a listing of titles and writings ;
- a report on the applicant's achievements on behalf of disadvantaged children.

Application forms are available at the Secretarial offices of the Memorial. The completed forms must be returned to the Memorial before the 31st December of a given year for competition on the following year.

The prize-winner is chosen by a jury composed of officials from the ICC and the Memorial Committee.

Candidates must formally agree to be present in Paris on the date set for the award ceremony, which is attended by the Executive Board and the personnel of the ICC, the donors and members of the Memorial, representatives of the specialized press, as well as diplomats representing the award-winner's country. The expenses attached to this trip are covered by the Memorial.

On 24th October, this year's International Nathalie Masse/ICC Prize was awarded to Mr. Prayat Punong-Ong, President of the Christian Foundation for the Blind in Thailand.

Mr. Prayat Punong-Ong was born on 16 May 1948 in Khon Kaen, in the north-east of Thailand. At the age of eight, he lost the use of his eyes in an accident. He was obliged to abandon his studies, since no facilities were available for teaching blind children, and for seven years he remained at home, unable to attend any school.

A family of American missionaries who happened to meet the young Prayat practically adopted him, and enabled him to continue his studies. From 1966 to 1978, despite official refusal to enrol him in a regular educational institution, he managed to complete his education by going to night school. He learned carpentry in a centre for the blind, after which he himself taught that subject while pursuing other studies.

Starting in 1978, Mr. Punong-Ong, stimulated by the affection of his foster parents, began to act in defense of the blind. His purpose was to improve the quality of life of the visually handicapped in Thailand, and to make the State aware of the human resources of these people. At the time, visually impaired children were not allowed to attend State schools. He rented a building in Khon Kaen and opened a «Christian Home for Blind Children». Two years later, thanks to outside support, he created the Christian Foundation for the Blind in Thailand.

Mr. Punong-Ong galvanized the administration, fought to enhance public awareness and from then on conducted coherent, effective action including both an institutional approach, the training of professionals specialized in visual impairments and of specialized teachers, social rehabilitation, family and community participation, the prevention of blindness, the integration of blind people in general educational facilities and in the working world.

At first the action of the Foundation was limited to the Khon Kaen region, but it was subsequently extended, and centres were created in Bangkok and in the inland regions, while a network for the exchange of experiences was expanded to Laos, Cambodia, Burma, Vietnam and Indonesia.

In 1985, Mr. Punong-ong was named «model citizen» of his country.

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## SKIN DISEASES IN THE TROPICS

1994 - N° 214-215

Skin diseases remain a major public health problem, especially among children living in disadvantaged settings. Health workers are constantly obliged to cope with them, since a large number of consultations are motivated by these conditions. A very few, easily diagnosed ailments, the treatment of which may well be standardized, are behind most of the cases seen.

Little attention is paid to these skin diseases in training programmes for these health workers, nor is any practical preparation provided, so that they may offer comprehensive management of the problem.

On the basis of their personal experience, the authors of the present study attempt to fill this gap, through an extremely pragmatic approach to common skin diseases, enriched with an anthropological approach to dermatological problems. Using examples, one writer demonstrates the qualitative role played by that particular social science in communicating with the population with respect to the naming of symptoms, the representation of diseases and the application of recommendations for improvement.

Another, more general article describes a model for an anthropological approach to the study of health systems.

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*"The daughter of the bootblack". Picture by Doctor Anne-Marie MASSE-RAIMBAULT.  
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